southern african Field archaeology

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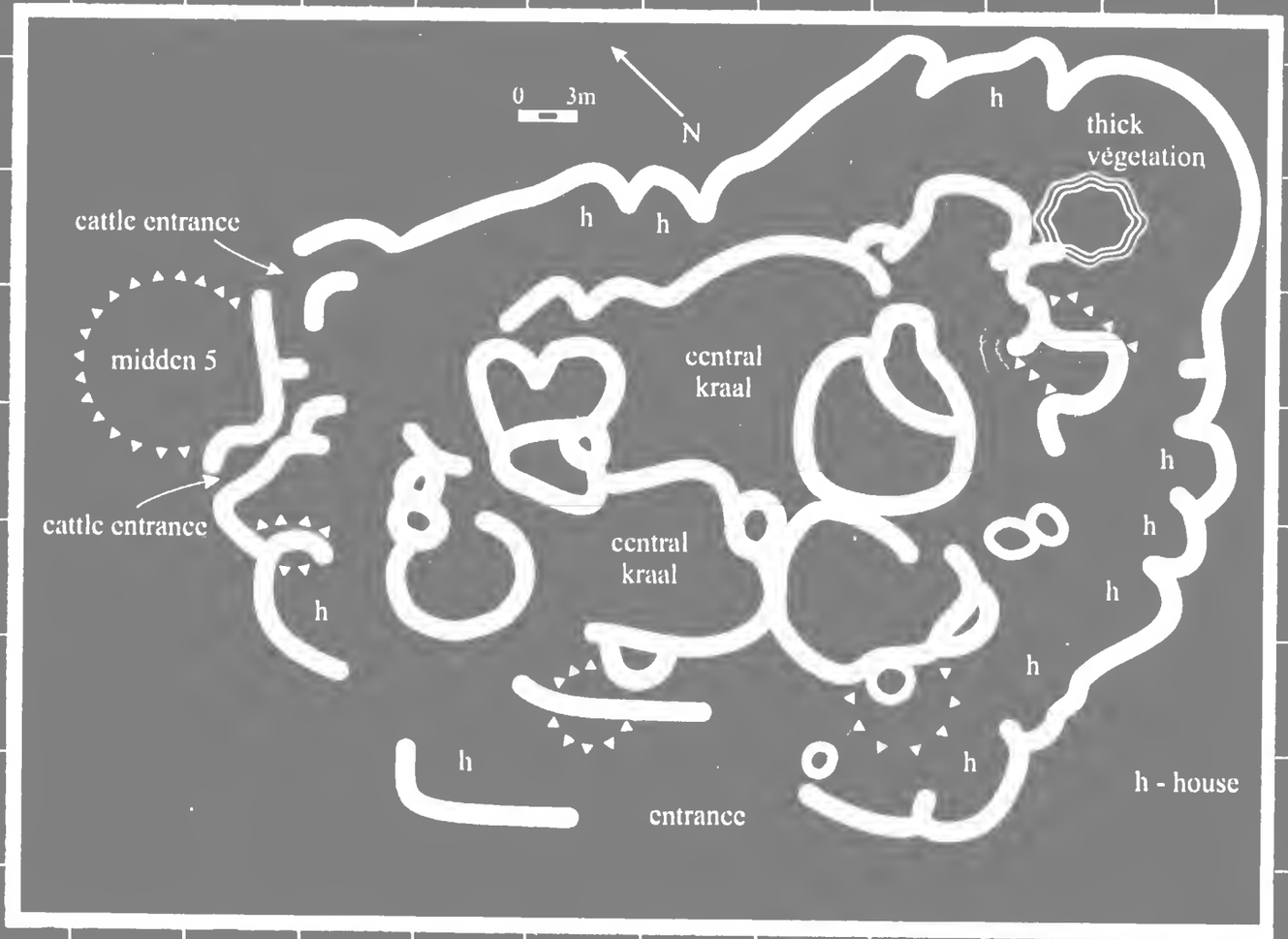

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The aim of *Southern African Field Archaeology* is to communicate basic data to professional archaeologists and the public.

Manuscripts of original research undertaken in southern Africa will be considered for publication. These may include reports of current research projects, site reports, rock art panels, rescue excavations, contract projects, reviews, notes and comments. Students are encouraged to submit short reports on projects. *Southern African Field Archaeology* also welcomes general information on archaeological matters such as workshops and conferences.

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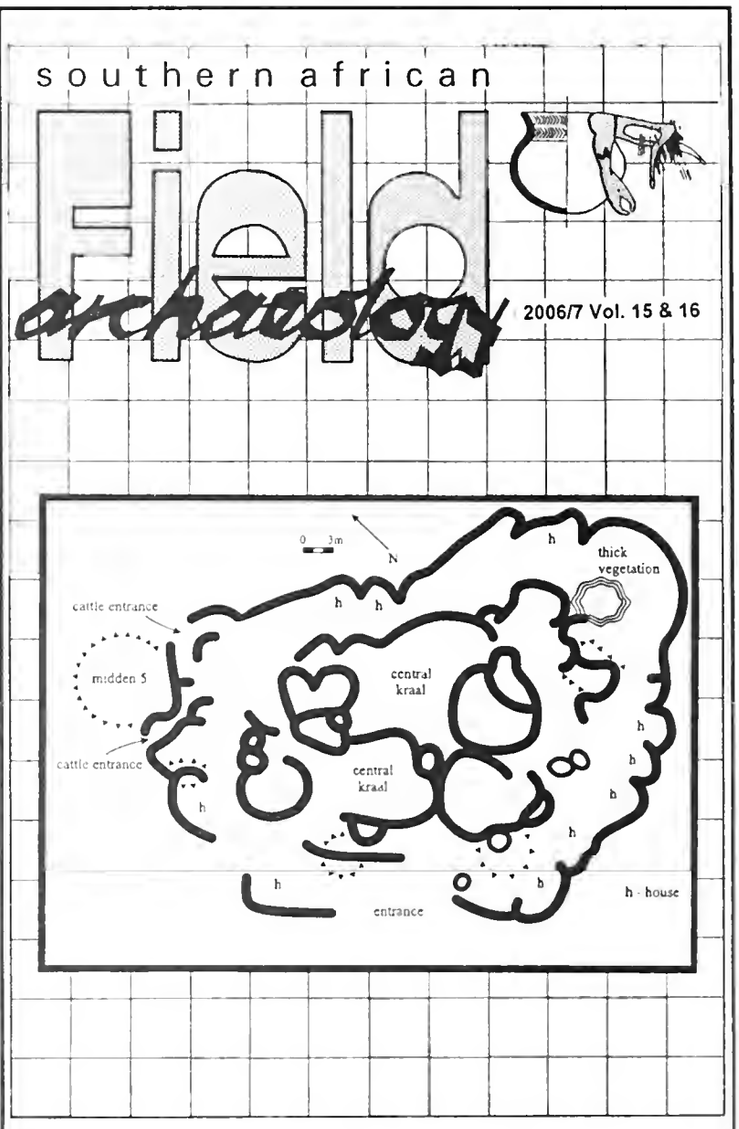

Cover illustration:
A Kliprivierberg Type settlement. See p. 42.

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OPINIONS

ARCHAEOLOGY AT MUSEUMS

In June this year some 17 archaeologists and other colleagues (with a training in archaeology) involved in archaeology at South African museums met in Bloemfontein to discuss mutual problems facing the profession in these institutions. There are approximately 34 full-time archaeologists and support staff employed at museums, not including vacant posts. This meeting, the first of its kind and long overdue, was organised by Zoë Henderson and her colleagues from the National Museum in Bloemfontein (NMB). It took place over two and a half days at a venue outside the city where discussions were conducted in a relaxed atmosphere. At the end of the proceedings a Museum Archaeology Working Group (MAWG) was established as the official 'voice' for museum archaeology. Many problems and issues were discussed, but only a few will be briefly addressed here.

The standard 'joke' about museums, and archaeology in particular - not enough money and posts, overworked and underpaid - has never been more 'true' than now (some of the delegates received financial assistance from the NMB to attend because of a lack of funds). However, more important is the fact that the old traditional museum environment is changing rapidly, and so is the life of the museum archaeologist. In the past museum archaeologists spent most of their time in fieldwork, on research and curation of their research material and related activities, which included preparing papers for publication. This situation has changed radically in recent years and some activities, such as research, are being replaced by public outreach programmes (museums are expected to initiate community service projects relating to HIV, crime prevention and job creation), an ever increasing administrative load, and greater demands for heritage consultancies/management.

Concerns were expressed that transformation of museums are resulting in the transformation of specialised people, such as archaeologists, into 'people who work in museums'. For example, only one museum has appointed archaeologists exclusively as researchers and they are involved full-time in archaeological research. The next best was "if I am fortunate, between a few hours a week, and sometimes only about a day a month". Some do not do any creative research/fieldwork anymore because of a "lack of time and funds"(there may be other reasons too). Whatever the reason, museum-based research appears to be 'driven to extinction' by 'new' demands from the 'new' public and social environment which have evolved during the past ten years.

To meet the demands and the challenges we need a 'new breed' of museum archaeologist to respond in an professional archaeological manner. It is important that we have an urgent meeting between the three major partners of South African Archaeology; museums, universities and SAHRA to discuss and plan for the future.

It is important for the future of archaeology that Universities train skilled graduates who can meet the specific demands made of museum archaeologists. Teaching 'world archaeology' is not preparing a graduate for a practical career in museums, or to be a heritage planner and manager such as is required with the explosion in consultancy work. Theoretical courses must make way for practical museum environment/consultancy courses to avoid or reduce the 'Frankensteins' walking archaeological surveys. Possibly we must consider dividing the discipline of archaeology into 'academic archaeology' and 'practical archaeology', with the latter being presented at a technical institution, rather than at universities.

A major problem facing museums (and South African Archaeology as a whole) is that museums struggle to fill archaeology posts. The Albany Museum, during the past six years has advertised a post three times, and has yet to receive a single application from a qualified candidate (BA. Honours degree). The National Museum in Bloemfontein has a similar problem. A few years ago the Natal Museum also faced this problem and in 1977 Aron Mazel wrote:

> ... there is an emerging trend in the employment pursuit pattern of archaeology graduates that we need to recognise and discuss. Archaeology graduates seem reluctant to leave the major centres of Gauteng and the Western Cape to pursue careers in these 'provinces' (Mazel 1997:87).

Mazel suggested that the information university graduates receive during their training at the 'centres', maybe at the root of the problem. He believes that students are not "adequately exposed to the research and results of 'peripheral' archaeologists and to the archaeological potential of 'peripheral' areas". Furthermore, 'peripheral archaeologists' are never invited to the 'centres' to present their research to students and to expose them to other research areas. Mazel (1997:88) concludes by asking the question:

> What, then, is the message being sent to provincial archaeologists about the value of their work? More important, what message is being sent to the students who might one day consider applying for posts in the 'peripheries'? Why apply for a job in an area you do not believe has much to offer?

These are soul searching questions for South African Archaeology and concerns in this regard was expressed and discussed at the meeting. Is this a reason why graduates do not apply for posts at museums? Why are 'peripheral archaeologists' not invited to the 'centres'? Are 'peripheral archaeologists', their research and departments regarded as 'second grade'? Whatever the reason, the museum collections are highly rated and are well-researched by graduates and university colleagues.

Another field of concern is the fact that museum archaeologists do not always have the full support of SAHRA. Several problems were discussed at the meeting, but one important problem is the lack/absence of a **National Human Remains Policy**.

Another major problem facing museum archaeologists, especially those institutions which are depositories for Phase 2 Archaeological Heritage Impact Assessments (AHIA), is storage space and related activities. Most museums are already experiencing a space shortage and they do not have the financial resources to build new storage facilities. Who will/must provide these? Further problems include the fact that the museums are/will receive vast quantities of Phase 2 material from AHIA projects in the near future. How will this operate in terms of quantity and quality, and who will decide and implement/ enforce this. Or will it be a case of museums becoming 'dumping yards' for thousands of boxes of badly curated Phase 2 material and museum archaeologist spending most of their time 'slaving' to curate and manage material from private AHIA practitioners?

Unfortunately, this column has run out of time and space but there are many more issues which need to be addressed. I am only the messenger but feel free to shoot me.

Johan Binneman
Department of Archaeology
Albany Museum
Grahamstown

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REMEMBERING THE MOUNTAIN BUSHMEN: OBSERVATIONS OF NINETEENTH CENTURY HUNTER-GATHERERS IN LESOTHO AS RECORDED BY VICTOR ELLENBERGER

P.J. MITCHELL

School of Archaeology, University of Oxford

and

St Hugh's College, Oxford, OX2 6LE,
United Kingdom

email: peter.mitchell@st-hughs.ox.ac.uk

ABSTRACT

Linguistic barriers to knowledge pose difficulties for archaeological researchers unable to access primary sources in languages other than their own. This paper makes available comments first published in French in 1953, but acquired in the 1920s and 1930s that provide firsthand observations of some of the last hunter-gatherers to live in the Maloti-Drakensberg Mountains of southern Africa. The observations are translated and assessed with reference to other historical and ethnographic sources. They offer additional information on the material culture, hunting practices and beliefs of the Mountain Bushmen of Lesotho. Most importantly, perhaps, of all, they provide valuable evidence for the authorship and production of Bushman rock paintings.

INTRODUCTION

If a lion could talk, we would not understand him.

Wittgenstein's (1958:223) comment reflects a truth as profound for archaeology as for philosophy, since it reminds us of the dangers that arise when knowledge is compartmentalised into linguistically separate boxes. The accelerating drive towards English as the principal language of international communication and academic publication encourages the neglect of other languages, their disappearance from school curricula, and the restriction of scholarship within linguistic ghettoes: works written in other languages become, for most English-speakers, inaccessible and thus irrelevant. Southern African archaeology itself operates in a multilingual setting, with South Africa granting many languages state recognition, and Lesotho and Swaziland offering official status to their indigenous languages alongside English. But except for Mozambique, where Portuguese is the official language, there is no getting away from the pre-eminent position held by English in politics, business and education across the sub-continent. That all papers published in this journal, and all those published in the *South African Archaeological Bulletin* for at least the last 40 years, are in English underlines that language's dominance in archaeological writing in and about southern Africa. It is to tilt the balance away from this overpowering Anglophone predisposition, however marginally, that I discuss here some observations of late nineteenth century hunter-gatherers in Lesotho first published in French over half a century ago[1].

Collating these observations was the work of Victor Ellenberger (1879-1972), scion of one of Lesotho's several French-derived missionary dynasties. Born in a cave house within a hundred metres of one of the country's few excavated archaeological sites (Mitchell *et al.* 1994), he was a son of Daniel Ellenberger, author of the first substantial history of the Basotho (D. Ellenberger & MacGregor 1912). Victor himself served in the Paris Evangelical Missionary Society's mission to Barotseland, western Zambia, from 1903-1917, before returning to Lesotho, where he worked at the Leribe mission until 1934. In 1935 he moved to France, becoming a parish priest near Paris, a position that he held until his retirement in 1947. As well as writing the book with which this paper deals, he also authored an important history of missionary activity in Lesotho (V. Ellenberger 1933) and was the pioneering translator into French of several Basotho writers, including Thomas Mofolo, whose widely acclaimed work, *Chaka*, was the first Sesotho novel.

Victor Ellenberger's historical interests extended to the history of the Bushman hunter-gatherer communities who still lived in Lesotho when he was born. Son-in-law to Frédéric Christol (1911) a fellow missionary and former Paris artist who copied and published examples of Bushman rock paintings, Victor took advantage of his posting to Leribe to do

the same. Collaborating with him in this was his son Paul, himself a writer of some note on Lesotho's archaeology and palaeontology (P. Ellenberger 1960; Ambrose 1991). Many of their copies were later exhibited in a yearlong showing at the Musée de l'Homme, Paris, in 1950-51, organised with the help of the Abbé Breuil. It was presumably also during his time at Leribe that Victor began to seek out elderly Basotho who had personal recollections of the last hunter-gatherers to live in Lesotho. Given the paucity of such evidence and the impossibility of obtaining such first-hand information today, his efforts enhance our knowledge of Lesotho's nineteenth century hunter-gatherer inhabitants in several ways. They are, however, buried within a much larger work that drew heavily upon earlier writers like Stow (1905), Schapera (1931) and Wilhelm Bleek to produce an account of the history and life ways of southern African Bushmen. Published in 1953, *La Fin Tragique des Bushmen* has received little attention from southern African archaeologists other than the late Patricia Vinnicombe (1976) and a couple of references by David Lewis-Williams (1981:14, 114). One reason for this lies in the book's rarity, but another, without doubt, in the fact that, for reasons of history and schooling, it is written in a language unfamiliar to many southern African researchers.

Ellenberger made use of a variety of Basotho informants when writing *La Fin Tragique*. Some of these remain unnamed, and in no instance are we provided with information about the circumstances in which interviews took place. For some individuals, however, including the most important of them, limited additional detail is provided on their qualifications and experience *vis-à-vis* nineteenth century Bushman history and life ways. Moreover, in the majority of cases Ellenberger provides his information in the form of direct quotations from his informants. Growing up and working in Lesotho as a native or near-native Sesotho speaker, there should be little doubt about the accuracy of his translations into French. I transmit his accounts verbatim, all translations being my own. Discussion of their wider significance in the context of our wider knowledge of Maloti-Drakensberg Bushman communities follows.

My emphasis is on the most significant, specific and, I suggest, reliable, of the accounts that Ellenberger preserved. Generalised statements not elaborated here include references to the importance attached by Basotho to establishing good relations with Bushmen by exchanges of meat and cannabis and of not looking Bushmen directly in the eye (V. Ellenberger 1953:65, 66). Others claim that Bushmen did not like to sing unless they had previously smoked cannabis (V. Ellenberger 1953:67)[2], or make passing reference to marriage patterns, shelters, how people indicated the direction of their movements to others, the uses of weighted digging sticks and bored stones, and the manufacture of arrow poison (V. Ellenberger 1953:74, 77, 80, 90, 125, 133). A detailed account of fire-making is also provided (V. Ellenberger 1953:84). Information on the defeat and death of the Bushman leader Soai at Sehonghong in the early 1870s, presented in the form of an appendix to the book (V. Ellenberger 1953:253-258), is not considered further here since it forms part of a more extended discussion of the historical sources for this event currently in preparation (Mitchell in prep.).

ELISABETHA 'MALÉKÈTANYANÉ MÔHANOÈ

This elderly lady, probably in her seventies when she spoke with Ellenberger, is the most important of the various informants whose words feature in *La Fin Tragique*. Indeed, Ellenberger himself describes her as "an old and precious Sotho informant" (V. Ellenberger 1953:86). At several points in the narrative she is referred to by name, and she may be the "old woman of Lesotho' mentioned on one further occasion. She is said to have been born in 1856 and could remember how, as a six year old child, Lesotho was affected by a great dust storm during the 'red dust' drought of 1862 (V. Ellenberger 1953:148; Eldredge 1993:78). She also recalled having seen hippopotami living in the Senqu River and at the confluence of the Caledon and Makhaleng Rivers, areas from which they finally disappeared in the 1870s (Germond 1967). Her significance derives from the fact that she had visited Sehonghong Shelter as part of a group led by the Phuthi chief Moorosi who went there to see the well-known Bushman leader Soai. At the time of this visit she was still a young woman, only recently married (V. Ellenberger 1953:148). This would suggest a date in the early 1870s, and thus probably not long before the death of Soai himself. An earlier reference to the visit having taken place when 'Me Môhanoè was sixteen (V. Ellenberger 1953:86) would, in fact, place the trip in 1872. However, it seems impossible to reconcile this date, derived from her date of birth, with the statement in the very same sentence that the visit occurred in 1866. Poor proof-reading or calculation seem the only explanations, the former supported by an earlier misdating of Jan van Riebeeck's settlement at Cape Town to 1632, instead of 1652 (V. Ellenberger 1953:27). However, for our purposes this difference is not critical. What is of greater interest are the observations that 'Me Môhanoè was able to recall. These cover a wide range of topics, as follows.

Pottery manufacture

Having observed women making pottery, presumably from the context of the sentence at Sehonghong itself, she said:

> This is how they were going about it. First of all they went to look for one of those round stones, hollow on the inside, in the shape of a cup, like one finds in many places in Basutoland; they placed this natural stone vase in front of themselves, then tried to imitate the model with the clay in order to make a container that they were able to use (V. Ellenberger 1953:86).

Eating

'Me Môhanoè also recalled seeing some men who were making a kind of spoon using the horn of a black wildebeest. Using these spoons, they ate a kind of boiled meat puree, which she described by the Sesotho word *lekhotloane*. She added:

> To suck the juice of the meat the Bushmen made use of brushes made with the tails of long-tailed sheep or just the bristles or the hair; these hairs and bristles were attached to little sticks; they dipped the brush into the juice (*mouro*) and sucked it; they flavoured the food with

the saltpetre (*lenyekethe*) that one finds on the walls of certain eaves (V. Ellenberger 1953:87-88).

Hide preparation

Referred to here as "the old Bantu woman who in her youth had seen the Bushmen at home in a cave in Lesotho", her comments on tanning were:

> They began by burying the skin that they were going to tan in wet ground; at the end of two days they took it out, removed the hair from it, then they fixed it on the ground in order to serape it; they tanned it with soft stones of yellow sandstone. For the animals with a harder hide, they made use of hard flints (V. Ellenberger 1953:91-92).

Painting

This, the most extensive report given by 'Me Môhanoè, begins:

> With my own eyes I saw three men, with white goatee beards on their chins, who were making paintings on the rock walls in the great eave of Soai, eaeh one on his own side. Not all the Bushmen knew how to paint...but only some of them, but those people were people who really knew how to do it. From time to time these men went to see those that were being made by the others; the women just watched....To paint they took a small vessel containing red paint; they wet their paintbrushes inside it; these brushes were made with the bristles taken from the tail of a black wildebeest (later they used horse bristles); these bristles were stiff and hard; the hair was fixed to a little stiek with the twisted tendon of an animal. They plunged the paintbrush into the paint (inside the pot) and painted on the roek. As many pots as they had different eolours...The paint was mixed with melted fat. To paint, they first of all took...a flat stone (a small pieee of a thin and very flat stone) and traced on this a small version of the image that they wanted to represent; then, with the pot of paint in his hand and the same flat stone with him, the artist reprodueed on a bigger seale on the roek wall what he had first represented on the flat stone (V. Ellenberger 1953:148-149).

Obviously in response to another question posed her by Ellenberger, she then "eonfirmed that these Bushmen did not use oehre for their paintings even though she could not tell me with what they had made them" (V. Ellenberger 1953:149).

Religious beliefs

As part of an extended discussion of Bushman religious ideas, 'Me Môhanoè was again quoted:

> The Basotho (*sic*; this is clearly an error for Bushmen) did not know how to pray; their god (*molimo-oa-Baroa*) was the praying Mantis, this green grasshopper that jumps (*qôtôma*) and that has the attitude of being at prayer (V. Ellenberger 1953:218).

Signifieantly, Ellenberger himself adds the comment immediately hereafter that this was the only occasion on whieh he heard anyone in Lesotho refer to the praying mantis as the 'god' of the Bushmen, even though Basotho eommonly referred to the insect as the Bushmen's god.

Two further comments may have been made by 'Me Môhanoè, but are not specifically attributed to her. Instead, both are assigned to "an old woman of Lesotho". The first of these statements concerns:

Decoration

No direet quotation is offered, but the informant is said to have provided exaetly the same deseription of how Bushmen women decorated themselves with ostrieh eggshell beads as was provided by the missionaries Arbousset & Daumas (1968:248) in the 1830s. Ellenberger (1953:183) notes that the informant "had seen these ornaments, worn by Bushman women, with her own eyes" and that strings of ostrieh eggshell beads were passed through the nostrils and fixed onto the head from behind, thus making a kind of seallop shape on eaeh eheek.

Medicinal practices

The second of these statements forms part of a series of eomments drawn mostly from Sehapera (1930) on beliefs about the rain:

> They did not have 'eharms' against thunder; nor did they still engage in scarifieation; they used eupping-glasses speeifieally made from springbok horns (V. Ellenberger 1953:224).

ELÉANORA MATLÉNANÉ

This lady is cited twice, the first time with speeifie reference to having eommunicated her account in 1934, the year before Vietor Ellenberger left Lesotho. She described, as a seeond hand aeeount, how Bushmen were able to access subsurface water when thirsty:

> A Mosotho woman told me that when the Bushmen were travelling and became thirsty, they did this: they took a hollow reed (they always earried this with them when they were travelling) then, arrived at a place where they 'saw' that there was water, even if the surface was absolutely dry, or only where there might have been some, they stopped there and began to thrust the reed into the ground, more and more deeply. At the end one of them 'called' the water into the reed by breathing with his mouth; he tipped the water obtained like this into an empty ostrich eggshell and everyone was able to drink (V. Ellenberger 1953:102-103).

A subsequent eomment (V. Ellenberger 1953:257) noted that different groups of Bushmen had different kinds of hair.

SÉ'QHOANG-'QHAÉ

This man was the son of someone who had himself fought against the Bushmen in the Maloti mountains. As a result of

this, he had received a Bushman name. Sé'qhoang-'qhaé told Ellenberger that "when a storm threatened the Bushman would, as if summoning the clouds, begin to sound a trumpet-like instrument made from the horn of the impala (*phala*)" (V. Ellenberger 1953:103).

UNNAMED INFORMANTS SAID TO HAVE WITNESSED BUSHMAN HUNTING

Two references are relevant here. The first describes the way in which Bushman hunters used to approach large game and was certainly provided by a man, 'un Mossouto'. The second set of comments refer to the use of fibre technologies to trap and snare animals and were either given by men, or by a mixed group in which men outnumbered women.

> They used to spy upon (lie in wait for [this is an alternative translation of the verb *épier*; P. Mitchell]) the wild animals and to approach them by crawling on all fours once they had located them; when the Bushmen got very close to the animals they stood up to frighten them so as to be able to choose from among them the biggest animal, the one whose colour was dark because it was fat; in fact, that was the one that they would shoot with the bow; it might have been a springbok, a black wildebeest or some other animal (V. Ellenberger 1953:121).

> These cords were made from the tail hairs of a black wildebeest or zebra, or from the fibres of a plant, plaited and twisted tightly together. They took for themselves grey rhebuck by means of nets and cords hung in such a way that the animal got trapped in them. They made snares with the hair from the mane of the species called *khokong* (blue wildebeest) so that game would get its feet or neck trapped in them (V. Ellenberger 1953:124).

DISCUSSION

To ascertain the significance these comments merit we must do more than just consider such limited information as we have about the informants themselves and their opportunities to make, or obtain, accurate observations. We need to situate their statements within the broader context of our understanding of Bushman ethnography and history. For surviving Bushman peoples in the Kalahari, there is, of course, a wealth of anthropological material on which to draw (*e.g.* Marshall 1976; Lee & DeVore 1976; Lee 1979; Silberbauer 1981). Though strong similarities exist in belief, ritual practice and technology between Kalahari groups and Bushmen living farther south (Lewis-Williams and Biesele 1978), closer comparisons exist with other groups known in South Africa and Lesotho. For South Africa, the extensive archive provided by /Xam men and women to Bleek and Lloyd in the 1870s and 1880s is the pre-eminent source of information (*e.g.* Hewitt 1986; Lewis-Williams 2000; James 2001; Hollmann 2003), complemented by the accounts of late eighteenth and nineteenth century European travellers (*e.g.* Dunn 1872, 1873).

Information specific to the Maloti-Drakensberg area is considerably sparser. The most important sources include the information imparted by the Bushman Qing to Joseph Orpen in 1873 (Orpen 1874), the account of the Thembu man Silayi of his three years' sojourn with a Bushman group in the 1850s (Stanford 1910), and the statements made in the 1980s by 'M', daughter of probably the last practising Bushman artist in the Maloti-Drakensberg region (Jolly 1986; Lewis-Williams 1986a). To these we must add as yet unpublished comments given by two elderly Basotho men at Sehonghong to Patricia Vinnicombe in 1971, and those provided by Moorosi's son Mapote to V. Ellenberger's niece, Marion How (1962), in the 1930s. Yet more information comes from the late Sister Mariya CR (Butler 2001), although its reliability has not yet been fully ascertained. Unfortunately, further opportunities for obtaining first-hand information of this kind no longer exist (Jolly 1994), although relevant data could still perhaps be retrieved from archival sources, such as those of Lesotho's Morija Museum.

For ease of discussion, I consider the significance of the comments made by Ellenberger's informants under four headings: material culture and technology; hunting; painting; ritual beliefs and practice. Under the first of these headings, I begin with pottery. 'Me Môhanoè's rather idiosyncratic account of how people made pots adds, it must be said, little to what is already known on this subject, evidence for which is ably summarised by Bollong *et al.* (1997), though without reference to *La Fin Tragique*. Where her recollections are helpful is in her observation that pottery was being made by women, rather than men. This is consistent both with the account of /Xam pottery-making provided by //Kabbo (Bleek & Lloyd 1911: 343-347) and with Arbousset & Daumas' (1968:249) own brief allusion to the subject from a western Lesotho perspective. Pottery belonging to the LSA Maloti-Drakensberg tradition described by Mazel (1992) occurs throughout the upper 1700 years or so of the Sehonghong sequence (Mitchell 1996), and it is of interest to see that it was still being made in the 1870s, despite people having some access to European trade goods by this time (How 1962:51).

'Me Môhanoè's description of eating utensils is more readily paralleled. Her reference to people using brushes made from sheep tail hair to pick up juice recalls Arbousset & Daumas' (1968:246) comment on the use of brushes made from wildebeest hair as spoons, as well as Dunn's (1931:24) reference to hyena mane hair being employed for the same purpose. Hardwood spoons are described by Lee (1979:155) among the Ju'hoansi, while the /Xam employed spoons made from springbok horn, rib bones and wood (Dunn 1931:23; Hewitt 1986:36). The "boiled meat puree" that she described with the Sesotho word *lekhotloane* recalls descriptions of Bushmen consuming boiled wildebeest skins (Arbousset & Daumas 1968:250) or pounded hide that had been boiled (Dunn 1931:37; Vinnicombe 1976:32) as famine foods, as well as the preserved meat and fat boiled together described by Dornan (1909:443).

For all that scrapers loom large in archaeological typologies we have few nineteenth century accounts of how people prepared and tanned skins. 'Me Môhanoè's description tallies reasonably well with that provided by Bleek and Duggan-Cronin (1942:vii), who also refer to skins being wettened and buried after they had first been scraped. Lee's (1979:124) record of the Ju'hoan process notes that soaking, softening and tanning were all subsequent to the initial pegging out, drying

and scraping of the hide. Since, however, 'Me Môhanoè specifically refers to "tanning" it may be that she felt no need to mention these preliminary stages. Her observation of the use of "soft stones of yellow sandstone" recalls the informal //khom scrapers still employed in rural Namaqualand. As described by Webley (1990:28), these are "merely sandstone or chalky pebbles with an abrasive surface" employed to remove fatty tissue after the skin has been dried, moistened, rubbed and stretched. As she further remarks, it is extremely likely that such minimally modified artefacts might be discarded in excavation, especially if made of the same material as the rock-shelter roof and walls themselves. Sehonghong would be a case in point, since like other rock-shelters in the upper Senqu Valley it sits within the Clarens sandstone. Personal observation of all material excavated there in 1992 did not identify anything that would fit 'Me Môhanoè's description.

What, however, of the formally retouched scrapers characteristic of recent Holocene assemblages at Sehonghong and elsewhere? It may be that the "hard flints" that 'Me Môhanoè said were used to work "animals with a harder hide" could include these, and there is recent ethnographic evidence that the thinner skins of smaller bovids such as duiker and steenbok were used for different purposes than the thicker hides of larger antelope like hartebeest (Deacon & Deacon 1980:35). Alternatively, one is reminded of Inskeep's (1987:310) suggestion that small, mounted stone scrapers were used only in the later stages of skin working, perhaps to decorate hides, and not in the primary stages of preparation. More comprehensive and, if necessary, site-specific studies combining microwear and residue analyses with experimental replication and usewear might help explore this idea further.

I now turn away from 'Me Môhanoè for a moment to consider evidence from other informants. Eléanora Matlénané's description of how people could access water by sucking it up from the ground through a reed finds a ready parallel in the use of reeds to suck water out of hollow trees or almost dry waterholes in the Kalahari and Karoo (Dunn 1931:27; Marshall 1976:75; Lee 1979:123). Ellenberger's comments on Bushman hunting practices have excited substantially greater interest. Even though they are not attributed to any one individual, they provide the main exception to the general neglect of *La Fin Tragique* as a useful source on nineteenth century Bushman practice. Vinnicombe (1976:292), for example, discusses them at some length, noting examples of paintings in the Drakensberg that, if interpreted literally, may support the use of snares to take eland and of nets to trap smaller antelope. Scenes that likely represent this latter practice are also known from the Western Cape. There, several sites preserve paintings of small or medium-sized antelope shown as if walking toward grid-like images that have been understood by some researchers (Manhire *et al.* 1985; Parkington 1989) as nets instead of entoptic phenomena (Lewis-Williams 1986b).

Also worth noting are the specific references made to the use of blue wildebeest bristles and black wildebeest or zebra tail hairs as raw materials for making snares. Wildebeest and zebra, though scarcely ever represented in Maloti-Drakensberg rock art, were certainly present in the Caledon Valley into the mid-nineteenth century (Ambrose *et al.* 2000:41). Archaeological evidence also demonstrates that black wildebeest (but not, apparently, the other two species) occurred in the Lesotho highlands during the last 2000 years (I. Plug, pers. comm.), even though they went unreported by later nineteenth century travellers (Grant 1873; Orpen 1874; Clarke 1888; Kennan 1959; Ambrose & Sekoli 1990a, 1990b, 1990c, 1990d, 1991). Unless 'Me Môhanoè's report is inaccurate, we may infer from this that either the meagre archaeological and historical sources available to us are not giving a complete picture of the region's fauna in the 1870s, or that Soai's Bushmen obtained access to these raw materials by other means. Hunting black wildebeest below the Drakensberg escarpment and exchange with groups living in KwaZulu-Natal, the Caledon Valley or the Free State are both possible. A final point also deserves comment, the emphasis placed on hunters selecting the biggest, fattest animal, an observation that tallies with the frequent stress placed on fat for both nutritional and symbolic reasons (Lewis-Williams 1981: 48-52).

Returning to 'Me Môhanoè, I now consider what she had to say on the subject of rock art. Several points warrant attention. First, she emphasised that painting was something undertaken by only some people and that, at least on the occasion that she observed this happening, "the women just watched". Moreover, it was not merely men who painted, but older men "with white goatee beards on their chins". The restricted authorship of rock art production implied by these comments is supported by the comments of the elderly Bushman descendant generally known in the literature as 'M', who was adamant that only men painted and that many of the paintings, moreover, were the work of shamans (Jolly 1986:5; Lewis-Williams 1986a:10; Jolly & Prins 1994:19). Furthermore, the exceptional quality of the art itself implies that only some individuals had the necessary skill and, perhaps, status to produce paintings (Lewis-Williams 1995:147). Qing's reference to some ritual knowledge being only known to "the initiated men of that dance" (Orpen 1874:3) and //Kabbo's many comments that only a *ʃo-/õä's* man could properly harvest and employ this important medicinal plant (Hollmann 2003:277-278, 308-322) point toward other forms of specialisation, as may //Kabbo's use of the term *Brinkkop man*, which Deacon (1997) suggests specifically denoted initiated, male rainmakers. Lastly, recall that the rock art of the Maloti-Drakensberg region itself probably records a transition from a situation in which paintings were produced by many people to one in which groups of shamans and, eventually, single individuals became pre-eminent or were singled out by depicting them in white and with distorted features (Campbell 1987; Dowson 1994, 1998; Pearce 2002; Blundell 2004). In sum, 'Me Môhanoè's comment about "men, with white goatee beards" fits with observations from several quarters that ritual knowledge and performance were more specialised among nineteenth century southern Bushmen than their recent Kalahari counterparts. Her emphasis on older men as the authors of the art is, however, uniquely valuable, and stands in contrast to the evident presence of female, as well as male, shamans among both the /Xam (Hewitt 1986) and modern Kalahari groups (*e.g.* Lee 1979)[3].

Next, I examine what 'Me Môhanoè knew of the technology of rock art production. The suggestion that sketches were made on painted slabs before images were painted on the rock face is not borne out by archaeological evidence and seems unlikely. Other details, however, are much more convincing and interesting. Her reference to the use of brushes made from the

tail hair of black wildebeest "fixed to a little stick with the twisted tendon of an animal" is, for example, paralleled almost verbatim by the description given by Silayi, who recalled that people painted with "hairs taken out of the tail or mane of a gnu. These hairs were tied together and fastened on a thin reed" (Stanford 1910:439)[4]. 'Me Môhanoè's further comment that horse bristles were also used is of additional interest, since we know from the rock art itself that horses did not merely have a utilitarian value, but were also incorporated into Bushman belief systems: the well-known depiction of conflated horse/eland creatures at Melikane shelter is perhaps the best example of this (Campbell 1987:87-90). The use of horse bristles to make paintbrushes may thus also have had more than a purely functional significance. However, it is unclear what, if anything, we should make of 'Me Môhanoè's use of the adverb 'later': does this mean that horse bristles came to substitute for those made from wildebeest hair, or were the two used sequentially at different stages of image production?

Surprisingly, given this level of detailed description and concordance with Silayi's account, 'Me Môhanoè was able to say little about the pigments employed in the paintings she saw being made at Sehonghong. Her explicit denial that ochre was used seems odd at first sight, but fits with the clear difference between ordinary ochre as used by the Basotho (*letsoku la Basotho*) and the glistening, sparkling *qhang qhang* pigment described by Mapote (How 1962:34). *Qhang qhang* also had to be heated at full moon before use, suggesting that some stages of pigment production were only undertaken at specific times (How 1962:35). If so, this may further explain 'Me Môhanoè's inability to specify what was used to make paint. In similar vein, only *qhang qhang* was mixed with freshly killed eland's blood (How 1962:37-38). The red paint and other colours that 'Me Môhanoè saw being used were thus perhaps all made from other kinds of pigment (*cf.* How 1962:35-36). Her reference to them being "mixed with melted fat" does, however, recall 'M's reference to a mixture of eland fat, eland blood and paint being used to make some paintings (Jolly (1986:6; Jolly & Prins 1994:20), as well as an oral tradition reported by Vinnicombe (1975:394) and comments, probably to be attributed to 'M's father, Lindiso, published by Rudner (1982:54). Further to this, Ellenberger recorded elsewhere that "we have heard some Basotho claim that the little yellow men also used the blood of animals to paint" and that "the Basotho have assured us that the Bushmen employed the juice of certain plants such as *Lotonis* (*khonathi* in their language) or the *Mosala-souping* (*Lithospermum* sp)" (V. Ellenberger 1953:164). The latter, like *Euphorbia candelabra*, which is also mentioned, were probably used as fixatives; similar uses were reported by Mapote (How 1962:36) and comments to the same effect were made by Sister Mariya to Butler (2001:17).

Given 'Me Môhanoè's detailed knowledge of at least some aspects of rock art production, it comes as little surprise that she also knew something of the beliefs underlying it. Our evidence for this, though distressingly brief, is her assertion that the praying mantis was the god of the Bushmen (*molimo-oa-Baroa*). As we have seen, Ellenberger explicitly noted that this was contrary to the sentiments expressed by all other Basotho of his acquaintance, suggesting once again that 'Me Môhanoè had access to information known to few others. As is now well understood (Hewitt 1986:140-142; Lewis-Williams 1997), the association between /Kaggen and the insect that bore the same name was much more than an accidental homophony, and in southeastern southern Africa at least /Kaggen resembled a creator deity whose benevolence could be sought through prayer, not just a mere trickster or mythological figure (Hewitt 1986:60). Qing's extensive narratives as reported by Orpen (1874) and Arbousset & Daumas' (1968:255-256) more prejudiced account concur with 'Me Môhanoè's statement.

The very last of 'Me Môhanoè's comments to consider is her statement that the Maloti-Drakensberg Bushmen "used cupping-glasses specifically made from springbok horns". The parallel here with what we know of /Xam practice is uncanny, for /Han≠kass'o commented that to increase the chances of hunting springbok successfully women "make cuts on our shoulder (with a sharp arrowhead). They suck our blood, they spit it out into a springbok horn. When the horn is full of our blood, they put buchu to burn, they put our blood to burn on top of the buchu, for they want the springbok to lie down (to die) for us" (Hollmann 2003:89). Though unobserved in the field, Marshall (1999:46) notes that Ju/'hoan men also kept small duiker horns for cupping.

Further proof that Ellenberger's informants had access to accurate knowledge about Bushman beliefs and practices comes from Sé'qhoang-'qhaé's statement that people would blow on antelope horns "as if summoning the clouds" when a storm threatened. Sé'qhoang-'qhaé specifically refers here to the use of impala horns, but this seems unlikely since impala are only present in the far north of KwaZulu-Natal, some considerable distance from the Maloti-Drakensberg mountains (Vincent 1962; Smithers 1983:648). The summoning of a torrential downpour by blowing on an eland horn is, however, well attested during a stock raid into KwaZulu-Natal in 1850 (Vinnicombe 1976:52). That eland horns possessed power is further suggested by the belief that a special snake lived between an eland's horns, the frequent omission of horns from paintings of eland, the burning of horn by the /Xam to disperse rain and the Ju/'hoan practice of keeping rain medicine in special (generally duiker) rain horns (Vinnicombe 1976:233, 340; Marshall 1999:166-167). Once again, our attention is drawn to the geographically far-reaching connections between the ideas of the Maloti-Drakensberg Bushmen and those living in other parts of southern Africa.

This is, of course, the striking conclusion that Bleek himself drew, having discussed with his /Xam teachers the copies of paintings that Orpen (1874) made at Sehonghong, Upper Mangolong and Melikane. Moreover, this assessment, and the demonstration of recurrent and consistent links in belief, practice and knowledge between linguistically very different Bushman peoples in southern Africa, underwrite not just current understandings of Bushman rock art, but also the very use of such ethnographic data to help understand the deeper past recovered through archaeological excavation. To do this effectively, we need, as Humphreys (2004/05) has once again recently reminded us, to 'de-!Kung' the Later Stone Age (*sensu* Parkington 1984). One of several ways of doing this is to broaden the ethnographic dataset that we use for comparative purposes beyond the frequently used trinity of Ju/'hoansi, G/wi and /Xam; Kalahari-based groups that have become more 'aculturated' through interaction with Bantu-speaking farmers should certainly not be excluded from this search. A second is

to turn to the material evidence, especially that of nineteenth century date, preserved in museums (Hobart & Mitchell 2004), while a third avenue would make greater use of those who observed hunter-gatherers firsthand in the eighteenth and nineteenth centuries. By collating and translating the evidence obtained over 60 years ago by Victor Ellenberger from elderly Basotho who had done precisely this, I hope that this paper has made some contribution toward this goal.

ACKNOWLEDGEMENTS

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Foot notes

1. We should also note the relevance of examining written Sesotho sources for information about nineteenth century Maloti-Drakensberg hunter-gatherers. Jolly (1994) does this to good effect when making use of observations reported by Azariah Sekese, while Ambrose & Sekoli (1990a, 1990b, 1990c, 1990d, 1991) have published and translated the 1887 travel account of Jobo Moteane.

2. Pieter Jolly has drawn my attention to the possibility that this reference to Lesotho Bushmen not liking to sing unless they had previously smoked cannabis may possibly refer to the use of narcotics in connection with the entry of shamans into altered states of consciousness if the singing concerned refers to singing or chanting during the trance dance. In the light of other knowledge (Mitchell & Hudson 2004) this would not be surprising.

3. Butler's (2001) report of Sister Mariya's account of the Bushmen of the Tsolo District of the Eastern Cape Province is at variance with these observations since she emphasised that everyone, both men and women, painted. While she noted, as one might expect from the art's associations with shamanistic experience, that paintings were "done during and after a feast" following the successful hunting of large game (Butler 2001:17), her evident lack of knowledge of other key matters, such as the religious significance of the art and the symbolic importance of eland, suggest that she may have had only limited knowledge of precolonial Maloti-Drakensberg hunter-gatherer life ways, something that fits well with her own date of birth (1915) and early twentieth century experience of a few Bushman survivors.

4. Other kinds of brush are also recorded from the region. Citing a letter from M. Apthorp to the then Director of the South African Museum, Louis Péringuey, Rudner (1982:54) reports that Lindiso, probably the same individual as the father of 'M', applied paint using "a piece of grass, which was sometimes split to make it resemble a brush". Sister Mariya's reference to "the root of a bush which turns to fibre when you knock it between stones" (Butler 2001:17) is not dissimilar.

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ETHNOGRAPHIC OBSERVATIONS ON THE BUTCHERING OF DOMESTIC STOCK AMONGST THE DESCENDANTS OF NAMA-SPEAKING PASTORALISTS IN NAMAQUALAND, NORTHERN CAPE

LITA WEBLEY

Albany Museum, Somerset Street, Grahamstown, 6139

and

JAMES BRINK

National Museum, P.O. Box 266, Bloemfontein, 9300

ABSTRACT

This article describes the butchering of domestic stock by descendants of Nama-speaking pastoralists in Namaqualand. A great deal of variability is exhibited in the selection of livestock for slaughter. However, the dismemberment of the animal follows a fairly standard procedure. Every anatomical part of the animal is consumed or used in some way. The historical and the ethnographic records discussed in this paper do not support the butchery models proposed by archaeologists attempting to identify pastoralist sites.

INTRODUCTION

The descendants of the Little Namaqua Khoekhoen have been settled in the communally-owned areas of the arid Northern Cape between the Olifants and Orange Rivers for several hundred years (Fig. 1). The inhabitants of the Richtersveld, Leliefontein and Steinkopf Rural Areas have an intimate understanding of their environment and have retained many aspects of a traditional pastoralist lifestyle such as a strategy of seasonal mobility, the construction of the transportable *matjies* houses as well as detailed medicinal and edible plant lore. During fieldwork in the reserves between 1982 and 2003, interviews were conducted with more than 50 men and women on the butchering of domestic stock. In addition, field observations were made on the butchery of sheep and goat.

These observations do not support the butchery models which have been presented by faunal analysts working on pre-colonial pastoralist sites. In their interpretation of faunal remains from excavated sites, archaeologists have drawn on ethnographic observations from other cultural groups and on modern butchery practices (Von den Driesch & Deacon 1985). Faunal analysts have not considered the historical and contemporary ethnographic material which is available on the Khoekhoen. They have, nevertheless, claimed that high frequencies of juvenile male remains in a faunal sample imply the presence of a herding economy (Klein & Cruz-Uribe (1989).

HISTORICAL RECORDS ON BUTCHERING AMONG THE KHOEKHOEN

There are many brief references from 17th and 18th century travellers to the butchering of domestic stock by Khoekhoen groups (Raven-hart 1967). Early travellers were particularly interested in the manner in which the Cape Khoekhoen consumed half raw cattle guts and wrapped the excess entrails around their arms and necks. Seafarers, who stopped off at the Cape of Good Hope before 1652, bartered both sheep and cattle from local herders. They butchered their purchases on shore, transporting only the edible portions on board. These travellers did not consume certain body parts, such as the intestines, which were discarded and provided the herding groups in the vicinity with sustenance that they had already paid for. The Khoekhoen were observed to draw the dung from the guts between their fingers and to throw the guts into the fire, before consuming them half-raw. They stored excess entrails by winding them around their neck and legs.

There is very little information on butchering methods and much of this early literature reflects European bias. Van der Stel (Waterhouse1932:124) observed Khoekhoen groups butchering sheep on his travels through Namaqualand in 1685. The individual was observed to,

> cut open its belly while it still lived, thrust in his hand and drew out the entrails, the sheep being still alive. Then the skin was clumsily torn from one side, the flesh severed from the shoulder blade, the ribs roughly broken off one side and stripped of flesh one by one, the same process being then repeated on the other side. The reason why they do not cut the throats of animals they butchering is to keep the blood, which they collect and boil by itself and then eat.

Wikar, a run-away soldier who travelled to the Northern Cape in 1799 (Mossop 1935:63, 65) and who observed ceremonial butchering, noted,

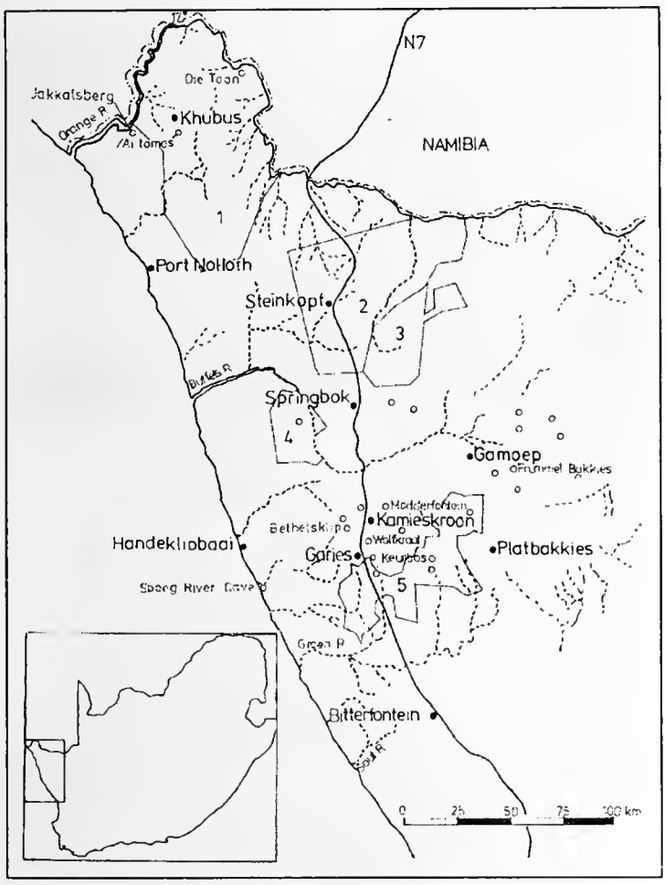

Fig. 1. Namaqualand with the locations of the archaeological sites as well as the communal reserves. (1) Richtersveld, (2) Steinkopf, (3) Concordia, (4) Kommagas, (5) Leliefontein.

> the killing of the animal ... is done by cutting open the abdominal covering, thrusting the hand inside and severing the pulmonary vessels. The woman wore the omentum around her neck and the gall bladder on her head. The men too were observed to wear this in ceremonial killings. Women and children may not eat of a man's ceremonial killing and vice versa; but all partake of an animal which is butchered for healing purposes, which is killed when there is illness, provided it is not a special handslagt. From what I observed, their whole creed comprises nothing but ceremonial killing (Mossop 1935:67).

Preferences for certain livestock are also mentioned in the historical literature but only in passing. Gordon (Smith & Pfeiffer 1992), travelling through Namaqualand in 1779 and 1780, reported that a ewe was butchered when a girl experienced her first menstruation (1992:21) and three sheep (a ewe and two wethers) when she left the initiation hut (1992:20). During the nineteenth century Hahn (1971: 61, 72, 87) reported that fat cows and fat ewes were butchered for initiation and weddings, while Hoernlé (1922: 22, 21), in the early 20th century, noted that during the rain-making ceremony of the Nama, a pregnant cow had to be butchered in order for the uterine liquid to flow into the fire.

Hoernlé (Carstens *et al.*1987:88) noted, "they kill, each man for himself too. The rich man perhaps sends a leg to the captain, but there is no need". After a child is born "a young ewe is killed for the use of the woman and her help-mates (Carstens *et al.* 1987:93). At weddings, the groom's family (the word used is *werft* or homestead) provided four cows and sheep (*hammels*) which they killed at the bride's parent's home" (Carstens *et al.* 1987:97, 98). Bride and groom have "a cow and a sheep set aside for the two of them and only the old, people may eat of these beside them. The breast and the brisket are reserved for them" (the breast and the hip of the cow are still always kept for the bride and groom).

Gordon's journals (Smith & Pfeiffer 1992) also frequently refer to the use of the knuckle-bone which was placed in the hand of a sick person, or suspended around the neck of a butcher. They also mention the use of omental fat around the neck. A woman might also be required to wear powdered caul around her neck during the mongoose butchering, or a young bride could wear the caul around her neck after the marriage ceremony. In descriptions of various kinds of butchering there is mention of drilling a hole in the knuckle-bone and suspending it from the hand by a sinew taken from the heel of the butchered animal. The sinew from a butchered sheep could also be plaited with beads and hung around a child's neck, or tied below the left knee of a newly initiated girl.

Engelbrecht (1936) has provided the most detailed account of the division of livestock amongst the Korana, of the Northern Cape, during the 20th century. Certain portions of the animal were kept and cooked for men only, and consumed separately. In addition, the owner's maternal uncle also received the head, the neck and the breast. Engelbrecht observed that the fore and hind limbs were removed and that the entire back bone was removed, but then unlike the Nama, it was divided into a number of parts. The men retained the following: the *kambene* or the neural spines; the hind part of the backbone and sacrum; the ventral or inner part of the vertebral column; the two biltong muscles on the shoulder blade, and the paunch, colon, abomasums, the psalterium (third compartment of the stomach), the kidneys and the rectum. The rest of the cuts went to the hut for disposal by the women.

It is important to emphasize that many of these ethnohistorical accounts refer to the slaughter of female livestock. There are no specific references to the slaughter of juvenile male individuals.

CONTEMPORARY ETHNOGRAPHIC OBSERVATIONS ON CEREMONIAL BUTCHERING

The ethnographic observations described here were made by Hoff in the Richtersveld, during the late 20th century. Additional information is provided by Waldman's (1989) research amongst the Griqua of Griquatown in the Northern Cape. The first animal to be butchered once the young girl was placed in the initiation hut had to be both female and fat (Hoff 1990:166). According to Waldman (1989:27) a young female sheep was slaughtered at the commencement of the young girl's initiation to symbolize the end of her childhood. Hoff (1990) noted that the most important part of this animal was the pelvis (*//haus*) and this had to be carefully removed, with a small piece of the backbone still attached. Care was taken not to cut into the pelvis, or to break it. The *//haus* was considered analogous to the young girl's pelvis, and she would not be

able to have children if the pelvis was damaged in any way. The *//haus* was boiled (not roasted) and was eaten by the initiate and her elderly caretaker (*kai taras*). The pelvis was cleaned of flesh, and then rubbed with fat and ochre; a hole drilled in the back, and hung up in the hut (Fig. 2). The rest of the meat of the butchered animal was consumed, and the bones collected, and burnt or buried. Waldman (1989) reported that the elderly caretaker removed the pelvis with the tail bone still attached. If the pelvis was damaged it would cause the girl to suffer during childbirth. Elderly women, past child- bearing age, were chosen to eat the meat from the pelvis. The pelvis was smeared with red ochre and hung up with beads and tortoise shells. The rest of the meat from the slaughtered animal was eaten by the women who took part in the ceremony. The bones from the sheep, the chyme (partially digested material from the small intestine which was used in ritual purification), the ochre scrapings and the offal were placed in a bag and taken to the spring, where they, together with the pelvis, were thrown in the water.

With regard weddings, the groom's family (Hoff 1990:199) provided animals for butchering at the wedding party. Traditionally, these animals are female as they are symbolically associated with fertility. Poles for the butchering of the livestock were erected in front of the door of the bride's home. The groom's family undertook the butchering and the meat was hung from poles and placed on reed mats in front of the house so that the bride's family could inspect the meat. All parts, including the skin, bladder, gall and blood had to be present. The dung was thrown onto the dance floor. Only one front foot was kept, so that the elderly women (*kai taras*) who had enjoyed a happily married life, could singe the hair and cook the foot in the ashes. This was done so that the husband and wife would not be parted. The front foot is symbolic of the person who takes the front foot. The aim of the butchery and the party was to bind the two families together. Hoff (1990:200) also reported that the short rib of the butchered animal was eaten by the bridal pair.

Pregnant women were not allowed to eat intestines, feet (because of the tendons), sinews or sinewy meat, so that the umbilical cord would not become entangled in the baby's neck and suffocate it (Hoff 1990:225). The son-in-law presented his mother-in-law with a pregnant cow (called the *abagomas*) on the birth of his first child. This was in appreciation for carrying his wife on her back as a child (in the leather baby bag or *abawel*) (Hoff 1990:204). Shortly after his wife had given birth, the husband had to butcher a sheep or goat. According to Hoff (1990:236) informants were not clear on whether this had to be male or female. The meat was only intended for certain categories of people and could not be eaten by strangers or young people. The *kai taras* (plural. *taradi*) cooked the meat to make a broth. The mother could not eat roasted meat as this would result in the young baby developing sore or red eyes. The mother had to regain her strength and the meat broth was considered very important. Some indicated that she should also eat of the brains (*haarslag*).

According to Hoff (1990:242), a married son respected his parents and therefore gave them of the best cuts of meat, such as the ribs. In further discussions below it will be argued that the ribs

Fig. 2. The pelvis which has been removed and covered in ochre, is suspended from a string in the hut.

are low status meat usually given to strangers. Similarly, a brother showed a great deal of respect for his eldest sister, and when he butchered, he sent her of the best cuts, such as the hindquarters.

An animal was butchered immediately after someone had died, usually when the stock was brought in from the veld (Hoff 1990:267). While any animal could be butchered, rams and bulls were avoided as their meat is considered to taste bitter. The best animal available for butchering had to be provided to relations of the deceased, such as a father, unmarried brother or son. The meat was intended for the family of the deceased. The meat had to be boiled and not roasted over the fire, as it was important that raw meat did not come into contact with the fire. Meat could only be roasted once the deceased had been buried. One way to avoid this taboo was to ask the *tai karas* to take pieces of the caul (*netvet*) and liver, the dung from the stomach, the small stomach (*kleinpensie*) and the front foot (of which the hair had been scraped off in the fire) and place this in the coals. Once this had been done, the injunction around the roasting of meat would fall away. The ash of the fire in which the above body parts were treated, was then buried (Hoff 1990:276). This was so that people could not walk on the ash and thereby affect the luck of the deceased's family. The family of the deceased as well as visitors was then "striped" with the blood of the butchered animal.

CONTEMPORARY ETHNOGRAPHIC OBSERVATIONS

During fieldwork in the Leliefontein, Steinkopf and Richtersveld Rural Areas numerous interviews were conducted on the butchering of domestic stock. These discussions are presented below.

1. Selection of a suitable animal to butcher

To the question, "how do you decide which animal to butcher?" informants generally responded with the answer "which ever you like". This answer was often qualified with the answer that they most frequently selected a young wether (a castrated ram) between 12 and 24 months of age, an old (48 months or older) or infertile ewe, or a young male sheep (12 and 24 months of age) to butcher from amongst their small stock.

However, the selection also depended on the occasion for which the meat was required. On ceremonial occasions like births, deaths and weddings, people generally select young animals (between 12 and 24 months of age), which provide tender meat. Contrary to the expectations of archaeologists they often selected young ewes to butcher. When a group of people reside together, *i.e.* during the school holidays, they may butcher a large animal (such as a 24 month old wether). Older wethers are generally sold. When a small group of people reside together, they may butcher a 6-month-old lamb.

People express the view that the desire for meat builds up until they feel compelled to butcher, even if they do not have a suitable animal in their herd. They butcher "what ever they have". On one occasion a herder butchered a pregnant ewe, because he claimed she was the most suitable animal in his flock. Often the decision to butcher an animal is taken, on what appears to the outsider, to be the whim of the moment. One informant recalled collecting a large amount of a certain kind of plant food (*veldkos*) that, she claimed, tasted delicious with mutton. She immediately butchered a 24 month old ewe to eat with it. Many similar cases have been observed and described.

Frequently people described eating an old animal, but they are always quick to add that the animal should be fat. As long as an animal is fat, its age does not seem to influence its palatability. Sometimes a specific animal is butchered for certain properties, *e.g.* an 8-year-old goat provides strong back sinews which are used for sewing leather. Certain sheep varieties may be selected for butchering because their skins are required for a sheepskin blanket. An old goat is sometimes butchered so that its intestines may be used for yeast.

Few informants still own cattle, but in the past (*i.e.* some 30-40 years ago), most families reported owning a few head of cattle. Young calves are generally not butchered because they observed, "their meat does not amount to much". In the majority of cases, informants said that they butchered young cattle (less than 36 months of age) or old oxen. Cows from 8-10 years of age were also butchered. However, in the majority of cases cited, the animal had been butchered because it was ill, had died of heat or of disease.

2. How frequently do people butcher?

Contemporary herders have relatively small herds of sheep and goats and the majority have reported that they are only able to butcher once a month. All were agreed that in the past (one to two generations ago) people butchered more frequently, the consensus being once a week to once in two weeks. One informant said that they butchered every 8th day, another every 14 days.

Butchering frequency naturally depends on herd size; with a herd of 100 small stock one herder said that he was only able to butcher every second month in order that he could continue to build up his flock. Another herder with 70 sheep and 130 goats reported butchering twice a month. In the past three to five families used to 'trek' and reside together and each family would take a turn to butcher and share meat with his neighbour. For this reason, my informants recalled nostalgically how their diet consisted almost entirely of meat, milk and bread in the past.

When questioned, however, they all insisted that even today they would butcher when they felt like meat, or when they had no meat in the house. Some people reported a decline in their desire for meat in the hot summer months. They said they did not feel like eating because of the heat. From February through to about May, they said, *gaan dit skraps* (people struggled to survive). May, in particular, is known as the hungry month. Seasonal hunger is accepted as a fact of life.

In contrast, the months August to October were regarded as times of plenty; people reported butchering almost continuously during the flowering season (*blomtyd*). After the arrival of missionaries in the 19th century, many herders were persuaded to plant small fields of wheat. The annual harvest of these wheat fields take place in December and herders are obliged to butcher some livestock to feed their helpers. This 18th century innovation has clearly significantly influenced current butchering patterns.

On certain occasions, such as weddings and deaths, up to four head of livestock may be butchered to feed the guests/mourners. Butchery also experiences an upswing during puberty celebrations, at births and during school holidays.

However, cattle, which provide large amounts of meat, were butchered less often in the past. One informant reported that cattle were butchered once in 3 months and the meat shared with neighbours. Cattle were butchered when there were enough people present to consume the meat before it went bad. Apparently, if 6 adults ate from an adult sheep or goat, the meat would last approximately one week. It was also observed that when one had guests it was possible to eat meat 2-3 times a day. If, for example, an animal was butchered on Tuesday, then the meat was generally finished by Saturday. Others remarked that the meat from a butchered animal generally lasted a week, *i.e.* from Monday to Sunday.

3. Seasonal Variability

As discussed in a previous section, butchering frequently appears to be seasonally determined. May is known as the "hungry month" and one informant reported that they ploughed their wheat fields first, and then started butchering their first cattle by May. They might butcher again in June and August. Cattle were butchered primarily in the winter months, because in the absence of storage facilities, the meat kept better. Since a cow or ox may provide 600 kg of meat, it is important that the meat be consumed by a large group of people. The meat of fat animals does not keep in warm weather. However, many

people pointed out that they seldom butchered cattle, but that many sick animals died in summer and then had to be eaten.

Small stock on the other hand, may be butchered at any time of the year. People reported butchering every 3rd day during the harvest (December). Many, however, said that they preferred not to eat too much in the summer months, especially if the meat was fatty. In winter, they reported "you feel more like meat".

4. Ritual and ceremonial butchering

People reported butchering more when they were engaged in communal activities like cleaning a water hole or harvesting wheat. Animals were butchered at parties, at weddings, and burials. After a birth, a woman had to lie in for a period of 9-10 days. Then an animal was butchered for her, as she needed meat to regain her strength. Plant foods and wheat were not regarded as "strong" enough to sustain her. After a further 10 days, another animal was butchered.

One informant from the Richtersveld could still recall the young girl's initiation ceremony. After the girl emerged from the period of seclusion, her family held a party and butchered some livestock. The dung of the stomach was thrown in the middle of the dance floor. People also reported butchering in the past after especially welcome rains had been received.

5. Who butchers and where?

Men generally undertake butchering although today some women are forced to undertake the secondary butchery because the men are often away. Two people are needed to butcher a sheep or goat animal (Fig. 3). According to van Niekerk (1975), four men are really needed to butcher cattle, one man cuts the throat and two men hold the back legs and front legs respectively. A fourth man holds the container to catch the blood. Butchering can take place either at the stockpost or at the more permanent summer settlements (called *stasies* or stations). The observations discussed below were made at the settlements and it is possible that variations on the process may take place at the stockpost. Frequently, the neck of the animal is slit at the stockpost after which the animal is transported and butchery takes place at the settlement.

Butchery at the stockpost takes place near the cattle byre (*kraal*) or at some place at least five metres from the house. The throat is slit and the blood drained on a piece of corrugated iron or on a small rock. Further butchering takes place closer to the cooking shelter (*kookskerm*) and the *n//a* pole. While butchering may be undertaken at any time of the day, informants said that the morning is preferred because the meat is said to taste better. This is contradicted by van Niekerk (1975) who claims that during summer, the evening is preferred as this allows the meat to cool overnight.

6. Disarticulation (dismemberment) sequence

Observations were made on the butchering of one sheep (at a stockpost) and two goats (at settlements). In addition, notes were made on the portions of carcasses present at various homes during my fieldwork in the study area. This is supplemented by interviews with elderly informants.

The animal is killed by slitting its throat (Figs 3 & 4). Informants emphasized that it was very important that the animal is slaughtered properly. If this is not done, the meat will

Fig. 3. The neck of the goat is slit and blood is collected in a bowl.

taste strange. It is reported that people can detect when an inexperienced person has undertaken the butchering. If the meat is tough it is because of the person who is responsible for catching the animal chased it around too much; if the meat is flavourless (*laf*) it is because of the person who slit the throat did not do a proper job.

A container may be placed under the neck to collect the blood by one of the butchers. He holds a stick or fork in one hand with which he stirs the blood to prevent it from forming lumps. Once the throat has been cut, the animal must be placed so that the head is lower than the rest of the body. This allows the blood to drain rapidly from the meat. There is a belief that meat which still contains a lot of blood, will spoil more rapidly. Butchering is considered a skill. It is important to know exactly where to cut and not to leave any meat or fat still attached to the skin. It is also important not to cut holes in the skin. The butcher also has to ensure that the hair from the animal does not stick to the meat.

Once the blood has drained, the skin is slit open from the neck to the groin and along the inside of each limb to the joints of the lower limbs (Figs 4, 3 & 6). The skin is then pulled away from the carcass by inserting a clenched fist between the skin and the meat, and pulling with the other hand (Figs 7 & 8). The experienced butcher only needs his knife at the groin, neck, tail and lower limbs (*lieste, nek, stert en pootafsnyplekke*). The lower limbs are cut through and they are removed with the skin. The process of removing the skin takes place quickly but a less experienced butcher can take more than an hour.

The stomach is slit open (Figs 9 & 10) and the internal organs divided into 3 groups:

a) liver, lungs and heart
b) stomach
c) intestines

The first group is hung from a nearby pole to drain (Fig. 11). The stomach is taken a few metres away and emptied of its contents. The intestines are pulled between the fingers to remove the dung (Fig. 12). When women are present at the butchering, they may plait a section of the intestine to dry and

Fig. 4. The start of the skinning process on the goat, with the skin slit open from the neck to the groin.

Fig. 5. The start of the skinning process on a sheep, starting with the front limb. It is of interest that the entrails, head and the distal ends of the limbs ('pootjies') are not removed before skinning. Today hunters will remove these parts before skinning.

Fig. 6. The skinning of the sheep continues, with the distal ends of the limbs removed.

Fig. 7. The entire skin of the goat is removed before the distal ends of the limb bones are removed. The skinner inserts his hand between the skin and the body to force the skin away from the body.

use as yeast. The rest of the intestines are usually cooked with group one. Sometimes they may be thrown straight on the fire and eaten immediately.

According to van Niekerk (1975), the lower part of the colon (*karnatjiederm*) is generally given to the butcher, but is otherwise thrown on the fire to be eaten immediately. He describes how the internal organs are removed, noting that the stomach membrane (*pensvlies*) has to be carefully cut open to ensure that the dung from the stomach contents do not contaminate the meat. Then the pelvis (*ysbeen*) is cut open carefully, so that the bladder is not nicked. The pallium (*mantelvlies*) is cut away from the ribs. Now the stomach has to be removed. At the base of the rumen (*grootpens*) the thin intestine (*dunderm*) is used to tie both ends. At the top of the stomach is the oesophagus known as the *rooikeel* and this is also knotted.Then the stomach is removed and carried off to the ash heap. A small incision in the stomach allows the dung to be thrown out. The stomach is an important part of the tripe which is to be prepared. He reports that the intestines (*dunderm and dikderm*) are often thrown away unless the woman wants to make sausage. Intestines can be dried out and used as yeast when baking bread. Further, an informant from Pella reported that the thin intestine could be dried out and blown up like a balloon. This was traditionally

Fig. 8. The skin and the distal ends of the goat have been completely removed

Fig. 9. The entrails of the sheep are removed while the careass lies on the skin. The head and distal ends of the limbs have been completely removed.

done at weddings. The rectum (*vetderm*) and the colon (*kartelderm*) are both turned inside out, cleaned and salted.

According to van Niekerk (1975), the liver is consumed first. It is thrown on the weakest coals so that it does not dry out. The rectum (*vetderm*) is placed on the hot coals as it must cook thoroughly. The kidneys, too, must be cooked for a long time. The omasum and psalterium (*blaarpens*) is cooked slowly as is the gullet or oesophagus (*rooikeel*). The *manuelvliese* are also cooked with the other internal organs, as is the heart and colon (*kartelderm*). According to van Niekerk (1975), the spleen ('milt') may also be roasted, but tastes better if it is combined with the lungs and oesophagus (*slukderm*), cut into small pieces and served as a soup. Informants report that the back (*i.e.* the vertebral column) which is often considered the best part of the animal, is eaten after the liver which has to be consumed fresh. The meat is cooked very rapidly in boiling water until it turns a pale grey, after which it is eaten with a little salt.

Tripe becomes the main meal on the second day after the butchering of the livestock (van Niekerk 1975:77). It takes experience to clean tripe properly. The trotters of the animal are boiled and then the hooves (*kloutjies*) are removed with the tip of a knife. The glands are removed in the same way. The various parts of the stomach (*grootpens, blompens, blaarpens and langpens*) are carefully scraped clean. The head must also be carefully treated.

Fig. 10. The process of removing the entrails continues.

Fig. 11. The liver and other unidentifiable organs have been left to hang after removal from the body cavity.

According to informants, the head is cut off and placed with the lower limbs inside the empty stomach and wrapped inside the skin for later transportation and processing. The gall is not eaten but is thrown to the dogs. The entire carcass may then be

Fig. 12. The cleaning of the intestines.

Fig. 13. The carcass without the head and neck is suspended from a fence at the kraal by the left hind limb. An incision is made behind the calcaneus without cutting through the Achilles tendon to allow the body to be suspended. The pelvis has now been cut through, which will leave typical chop and cut marks on the pubic bone. Also the sternum has been cut through.

hung from a pole to drain (Fig. 13) after which it is portioned into three primary sections (Figs 14 & 15). One side, cut off along the backbone, consists of a scapula, a forelimb, half the ribs, the backbone and half the pelvis. The other side is removed in the same way. The vertebral column, consisting of the neck, back and tail is considered the third portion, and this is cracked along the middle for easier transportation.

According to van Niekerk (1975), the breast bone of young lambs is cut open, while those of older individuals are sawn open. It is very difficult to break the rib cage of cattle in this manner and van Niekerk reports that at least two men are needed on each side. It was reported that the ribs are too large to break open and that the chest has to be sawn open.

Secondary butchery takes place at the settlement. This results in seven portions (*i.e.* the two forequarters, the two hind-quarters, the two ribs and the back). All informants emphasized the final portioning into the same seven body parts. The head, together with the stomach and feet (lower legs), are cooked separately as tripe. The intestines, heart, lungs and liver are consumed first. Then the tripe is eaten. The ribs are eaten last as the meat is said to preserve the best. Cattle are butchered in the same way.

Van Niekerk (1975) describes how the carcass is hung from the meat pole (*slagpaal*) and then divided into eight body parts. They are the two hindquarters, the two forequarters, the two ribs, the vertebral column and the neck. In other words, the same seven body parts reported by informants with the addition of the neck, which has been removed from the vertebral column. The meat has to hang until it is completely cold. This is why butchering frequently takes place at sundown.

7. The sharing of meat and reciprocity

Certain portions of the slaughtered animal are preferentially exchanged. For example, on receiving half a rib section as a gift from an informant, I reciprocated with a neck of mutton bought at the local butchery. The meat was received with little enthusiasm. It soon became apparent that people have preferences for certain body parts

Whenever people were asked which part of the animal they generally gave as gifts, they invariably responded, "when someone asks for a piece of meat, you give him/her what they ask". They have a saying that the meat which is given away, will return (*die vleis kom weer terug wat soontoe is*). All informants emphasized that one always shared meat from domestic stock. This rule is generally not applied to hunted game that, today, consists of fairly small animals (such as steenbuck, dassie and hare). It is not known what happened when people hunted eland and gemsbok in the past.

Since family members lived near each other in the past, sharing usually took place between parents and their children, or between brothers and sisters. However, it became clear in

Fig. 14. The hind limb is cut from the body. This includes the section from the heel (talus and calcaneus) to the pelvis.

Fig. 15. After removing the hind limb, the carcass is split axially by dorsally cutting through the lumbar and thoracic vertebrae on the right side of the vertebral spines, on the side not used for suspension.

discussions, that even if a total stranger approached one with a request for meat, this would never be denied.

As mentioned previously, informants emphasized the division of the carcass into seven body parts. It appeared that there was a general preference for the back of an animal, especially the lower (lumbar area) back and hindquarters. These portions are usually consumed first as it is reported that the meat is the thickest and will therefore spoil first. The lower limbs, head and internal organs are generally retained by the owner of the animal and are not usually shared. The back and hindquarters may also be given to ones parents or parents-in-law or else made into biltong. The ribs and forequarters are more generally given away to other family members. The ribs in particular are regarded as low status food and are often given to strangers. Informants from Pella reported that people give the forequarters to visitors and that it would be rude to keep this part for yourself.

The stomach is reported to be big and everyone likes it, so it is cooked so that everyone can get a piece. The head too, is reported to feed an entire family. Apparently at least 5 families are able to eat from a single animal (if the two forequarters and two ribs are given away) and the back kept for ones own consumption.

Cattle provided even more meat. According to informants the best part of the ox is the hindquarters, forequarters and the back. They are reported to consist of *vaste vleis* (meat with substance). The two hindquarters are reported to feed four families, the two forequarters two families, the ribs two families and the head one family.

8. The preparation of the meat products

The back and hindquarters are the best parts for biltong. Making biltong allows the meat to keep longer. Today, biltong is seldom made from sheep or goat meat but game biltong is still common. Alternatively, the meat would be flayed (*oop gevlek*) and well salted. If properly done, the meat could last up to a month outside of the refrigerator. Generally, meat is cut up into bite-sized pieces and boiled in a tripod pot together with vegetables. The ribs are sometimes roasted in the mornings for breakfast.

In the past the head was first placed in the fire to singe off the hair. Then a hole was made in the ground and a fire made inside. After the fire had died down, the embers were scraped out, and the head placed in the hole, which was then covered with tin sheeting. The embers were placed on top of the tin. According to informants, the head takes about one hour to bake through, after which it is possible to pick off the meat, before the skull was chopped open. The brains and tongue were also eaten.

Today, people spend a good deal more time preparing tripe (*offal*) that includes the head, stomach and lower limbs (Fig. 16). The hair is carefully removed from the head and feet with a razor blade. Thereafter the head is chopped open and boiled together with the stomach and feet. It is a very time-consuming process but tripe is a favourite dish and the time is considered well spent. It is one of the first dishes to be prepared after the animal is butchered as the internal organs and the brain does not keep well.

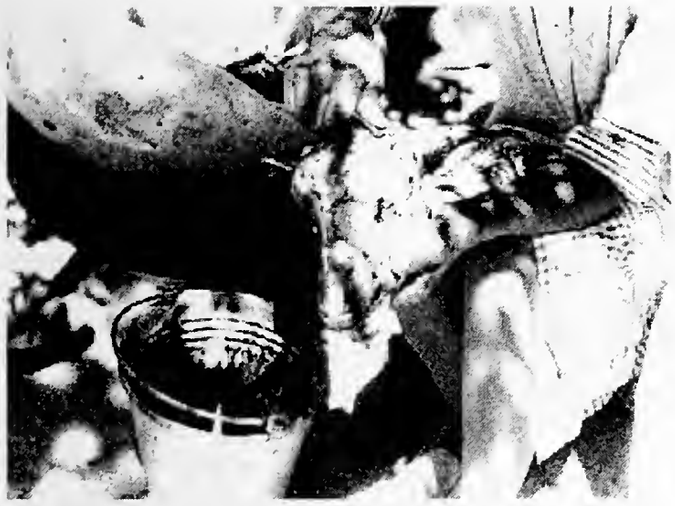

Fig. 16. The head, which is not skinned, is being prepared.

Fig. 17. The blood of the slaughtered goat is being whisked to prevent it congealing.

The small intestine and stomach may be air dried and cooked when desired, sometimes by placing them on a grid or directly into the warm ashes. The kidney fat and intestine fat are especially favoured for adding flavour to vegetable dishes.

9. Marrow extraction

The limb bones are boiled and then chopped open for the marrow or as informants described it: "until the soft yellow fat runs out". The bottom part of the long bone is chopped off and the bone is placed in a pot in the sun, preferably in a sheltered part of the cooking shelter. The oily fat is reported to run out into the pot and is eaten by the children. Alternatively, the bone may be placed on a clean flat stone and broken open with another stone. The marrow that runs out is scooped up and eaten. A special method is used to prevent the bone from splintering into the marrow. The bone is chopped/broken on a place which still has meat attached. This results in only small splinters of bone (*skilletjies*) rather than larger pieces of bone. The bone may be broken open by cracking it against a pot lid.

10. Meat Storage

From discussions with informants it appears that meat can last a long time if properly treated. If untreated, it may spoil very rapidly and therefore the proper procedures need to be followed immediately after butchering. The general consensus is that meat, if not treated properly, will spoil within three days. However, if the correct methods of preservation are followed, meat may last 8-15 days during the harvest (summer) and up to a month in winter. In practice, of course, meat is generally consumed long before it has had a chance to spoil.

According to informants, the meat must be placed on the roof of the hut at night or else hung from the *n//a* pole. The word *n//a* is said to mean meat, and people therefore say the pole is 'n//a' or full of meat. If it dews at night, a covering is placed over the meat. Early the next morning, before the sun rises, the meat has to be wrapped in a cloth or sack, and packed away in the coolest part of the hut. This is generally under the bed. If the meat is very fatty, it was to be stored between sheets of paper during the day.

According to van Niekerk (1975), the simplest meat pole is a long branch of a thorn tree. It needs several branches so that the portions of meat do not touch each other and spoil. These branches need to be above the height of dogs. The meat is removed in the mornings, wrapped in a cloth, and placed in the coolest place in the house, which is generally under the bed. The means is taken out again at sundown, and hung from the meat pole. If this routine is followed precisely, then it is possible for meat to last up to 15 days in summer. One informant reported that he sometimes ate from a goat for an entire month.

Meat may keep even longer if it is flayed which involves cutting and salting the meat. It may be left for 2 days in salt, and coriander and cloves may be added to improve the flavour. When flayed, the bone had to be removed from the meat. Despite every precaution, meat does start going rancid with time, it is reported to become soft and 'melts'.

11. Use of other products resulting from the slaughter

Fat

The hard fat is removed from the stomach and intestines and placed together. This will be used later in cooking and importantly in the manufacture of home-made candles. The sheep tail, together with other soft fat which has been removed from the meat, is cooked together for various household products such as a spread for bread and ash bread. The fat tail of the Namaqua Afrikaner sheep may weigh between four and eight kilograms. Boiling the tail in a pot renders the fat. This produces a thick white fat that may be stored for up to one month and is used in almost all dishes. The small bits of meat in the tail are cooked to a golden brown (*kaiangs*) and this is a special dish with children.

Rudner (1968) traced some 230 early references to the use of fat in connection with the Khoekhoen. Thirty-four of these references specify sheep fat and some insist on the use of tail fat. After the fat is rendered from the tail, it is stored in a tin and used in a variety of ways. Apart from its culinary applications, fat is also used to soften skins, it is combined with various herbs

and applied medicinally (for massage) and is used in rituals. People distinguish between stomach fat (*ong*) and kidney fat. The former is combined with herbs and used medicinally; the latter fat is referred to as hard. The stomach fat is prepared by chewing it finely, then softening it in the palm of the hand, before using it as a plaster on sore nipples for breast-feeding mothers or mixed with dagga (*Cannabis* sp.) and applied to baby's navels. Fat may be combined with ash and used as a plaster. One informant explained that the fat around the kidney was called *ong*. It is generally used after it has stood a few days in a tin and melted into a soft yellow fat, which can be used like Vaseline. However, if the fat is needed quickly, then one can chew the raw fat until it becomes soft. Animal bones may be kept and stored in tins that are hung from the *n//a* pole. They are boiled for their fat, which is used to soften hide.

Blood

The blood of small stock is often kept for blood porridge. Cattle blood is not consumed but may be used on the matjies hut floors (Archer 1994). Animals are generally butchered by slitting the throat. The blood, collected in a bowl, is whisked so that it does not congeal (Fig. 17). Alternatively, the blood may be allowed to set, and the fibres removed with a fork. The blood is brought to the boil in a pot, and a cup of flour and a cup of sugar as well as a pinch of cinnamon are added. It is served to children. Or it may be given to the dogs. Meat may sometimes be finely ground or stamped with grindstones. Meat may be briefly placed in hot ashes before being stored for later use. It is believed that this delays its deterioration.

Sinews

The sinews from mature goats are used as a thread for sewing hide articles (Webley 2005). Sheep sinews are not strong enough while cattle sinews are too thick to be used for sewing. After a goat is butchered, the ribs are removed but care is taken not to cut them off too close to the vertebral column. The sinews are cut loose at the neck and lower back and then carefully 'pulled out'. The excess meat is scrapped off and the sinew is wound around a pole and left to dry. The sinew is then pulled apart into thin strands. It may then be moistened in the mouth or a little fat may be applied, after which it is rolled between the fingers until a thin thread is produced. It is then used for the sewing of skins, *etc*.

Hooves and Horns

Cupping horns have traditionally been used in medical treatments and elderly residents talk about three horns, one of a bull and two of calves. They specify that the horns should be respectively 2 inches, 1½ inches and 1 inch in diameter. Laidler (1928) reported that both ends of the horn was open, the broader end was carefully bevelled while the smaller end was closed with resin which was then pierced with a long thorn. Small scratches or cuts were made on the patient's back or legs and he/she was required to lie in the sun so that his blood could warm up and flow easily. The horns were then applied to the cuts and used to "suck out" (*koppel*) the pain or disease. These horns were only used by medicine men. Goat horns may be burnt and the outer surface scraped off for medicine. The hooves of animals were also scraped and the shavings used for medicine. Goat dung may be used medicinally, *i.e.* for treating measles. One informant reported placing his infected legs in a bucket of warm goat dung to treat them. In the recent past, cattle dung, blood and the gum of Acacia tree were mixed and applied as a surface to the floors of huts (Archer 1994).

DISCUSSION

Detailed discussions with informants and field observations have revealed that decisions regarding the animal to be butchered are a complex process in which many factors are taken into account. The selection of a suitable animal depends on a number of variables such as (1) size of the owner's herd, (2) composition (age/sex) structure of the herd, (3) season of the year, (4) number of people for whom meat is required (5) occasion for which meat is required *i.e.* daily versus ritual needs, (6) secondary by-products required *i.e.* sinew, skin, fat, horns, etc. In a similar vein, when Binford (1978:39) questioned the Nunamiut on their personal preferences in terms of caribou meat, he reported that his informants were puzzled.

> Do you mean in the winter or summer?
> Do you mean during the migration hunting or when we are eating dried meat?
> Do you mean at a 'feast' or a regular meal?
> Do you mean when receiving a gift of meat from a relative or when I am eating my own meat?

It is clear that the Nama Khoekhoen, like the Nunamiut, need to consider many variables when making decisions regarding butchery.

However, the dismemberment process itself, appears to be fairly standard (possibly not as rigid as Binford observed). Game, whether it be dassie or a small buck, are butchered in the same way as that of domestic stock. Exceptions are only made when, for example, a goat is butchered for its back sinews.

Butchery is a process which does not end with the evisceration of the animal and the dismemberment of the carcass into the seven units described above. There is also a secondary dismemberment of the carcass which usually takes place within the home and is dictated by rules regarding sharing and reciprocity. Some anatomical parts are presented to the family. The Nama appear to follow the system of the San, with the most important parts given to the parents. Meat is shared, first with parents and parent's-in-law, then with siblings and the extended family. Peterson (1993) describes a system of 'demand sharing' amongst Australian Aboriginal peoples which is also very prevalent among present-day inhabitants of the Namaqualand reserves. Informants reported that they would not reject the request for a piece of meat even if it came from a total stranger. Not all sharing is altruistic. In the majority of cases, people feel compelled to share their food (and other items from the household) with family, friends and strangers because it is expected of them. They may complain about the fact that a particular individual always turns up when they are serving supper, but the individual is never turned away empty handed.

This paper does not attempt an animal body-part utility index, such as that devised by Binford (1978). Archaeologists have been concerned to devise such measures to interpret faunal assemblages. Simply put, these indices reflect the fact that different anatomical parts of the animal contain different amounts of meat, bone marrow and bone grease and Binford

suggests that these indices influence decisions on the transportation and storage of different body parts. "In general" he observes, "the parts of greatest utility are femur, sternum, ribs, pelvis, and thoracic vertebrae" (Binford 1978:21). Clearly these observations are not supported by the oral accounts of Nama butchery presented above. Binford himself, acknowledges that he has not observed a single episode in which the selection of a specific anatomical part was made with respect to the meat yield only. There are many factors at play with regard the distribution of body parts. For example, the Nunamiut (Binford 1978) exhibited a bias against the front legs and the neck, as these body parts are the leanest.

Generally, anthropological studies contain little discussion on the internal organs as these obviously have little archaeological correlates. But, this review shows that internal organs are consumed first and that they are of sufficient quantity to provide meals for the first few days after an animal is butchered. With regard marrow- extraction, it is interesting to note Binford's observations amongst the Nunamiut women, "second concern: namely, that the bones be broken so that the marrow remains "clean", that is free of impact chips commonly driven into the marrow when the dense bone of the shaft is impacted" (Binford 1981:158-159). Pastoralists in Namaqualand also employ a strategy to avoid these 'impact splinters'.

In summary, in more than 50% of all interviews, informants agreed that they preferred butchering an 18-month to 2-year-old male goat (*kapater*). Other preferences were for male sheep over 12 months of age, or old ewes (older than 8 years of age). Very few (only 2) informants specified lambs of 6 months of age. Very young animals (whether they were sheep, goat or cattle) were seldom butchered as people reported "their meat does not amount to much".

There is no evidence from the ethnographic material presented above that would support the interpretations offered for the age and sex profiles recorded at archaeological sites such as Boomplaas (von den Driesch & Deacon 1985), Kasteelberg (Klein & Cruz-Uribe 1989) or Die Kelders (Schweitzer 1974), although there are some correlations with Jakkalsberg (Brink & Webley 1996) and the recently abandoned pastoralist site at Sendelingsdrift (Robertshaw 1978).

In their analysis of the post-cranial sheep sample from Boomplaas Cave in the southern Cape, von den Driesch and Deacon (1985) reported that 40% died before 6 months of age, 25% died between the ages of 6 months and 1 year, and 15% died between one year and 18 months. Only 20% of the remains were older than 18 months. In other words, 80% of the sheep (based on the post-cranial sample) were juvenile. Von den Driesch and Deacon (1985) attempt to explain the high proportion of juvenile remains at the site by proposing that Boomplaas functioned as a sheep kraal, and mention a juvenile mortality rate, due to natural causes, of around 16%. This figure is probably an under-estimation as Cribb (1984:163) has observed that "a neonatal mortality rate of 20-30% is common" amongst herding groups. The very high (40%) proportion of sheep individuals of less than 6 months of age from Boomplaas should possibly be interpreted due to natural attrition.

Nevertheless, von den Driesch and Deacon (1985) have speculated on the high juvenile numbers from the site by quoting information from the Maitland abattoir in Cape Town, indicating that 70% of the sheep delivered to the abattoir are lambs less than 12 months of age. Clearly, the Western palate prefers lean and tender lamb. However, the descendants of Nama-speaking pastoralists are equally adamant that their meat should be fat. A 6-month-old lamb contains very little meat or fat. Even European farmers, living around the Leliefontein Reserve, concur that the optimum age for butchering small stock is between 12-18 months when both weight and tenderness is maximized. If we interpret the high numbers of juvenile small stock remains from archaeological sites using Western standards "for judging what is plausible or possible, then we commit the worse kind of ethnocentric error" Binford (1981:188). In place of a post-hoc accommodative argument, it is important to ask: why does the archaeological record from Boomplaas contain such high numbers of juvenile sheep phalanges? Do they represent complete individuals introduced into the assemblage? How were these juvenile bones preserved? If these animals represent livestock consciously butchered, cooked and the bones discarded - what mechanism resulted in their preservation? Were there dogs present?

Further, the spread of three male and seven female sexually mature individuals from the archaeological deposit at Boomplaas would suggest that decisions regarding the butchery of domestic stock was more opportunistic than planned.

With regard Die Kelders on the Cape south coast, Schweitzer (1974) has recorded 23 sheep individuals from Layer 2 based on dental material. Eighteen were younger than 18 months, two between 18 months and 48 months and three older than 48 months. Six out of 23 individuals were definitely identified as being male, and they appear to all be young to very young from the state of their horn core development. "The predominance of the male juvenile remains supports the assumption that the Die Kelders sheep were slaughtered by their herder-owners"claims Schweitzer (1974:79). In other words, that they were cropping their surplus stock, the young male non-breeding animals. In an earlier paper, Schweitzer and Scott (1973) were more specific, noting that there are 15 animals aged between six months and thirty months. The latter age range, however, would support the ethnographic observations presented in this paper.

Kasteelberg, on the Vredenberg Peninsula in the Western Cape, is a small hill with a number of archaeological sites. Klein and Cruz-Uribe (1989:90) have found that the faunal assemblages from sites KBA and KBB are dominated by sheep and seal and they have suggested that these sites functioned as "specialized stockposts/sealing stations". In their interpretation of the faunal assemblage from Kasteelberg A and B Klein and Cruz-Uribe (1989) begin from the assumption that the sheep, "were kept primarily for their milk and partly for their meat. Their age profiles thus should be dominated mainly by young animals (lambs), in the first 10% of potential life span (roughly 12 years), and secondarily by relatively old ones, beyond 40-50% of life span when reproductive capacity begins to decline. The regular removal of many lambs and of post-prime adults would not only produce a steady supply of meat, it might even promote flock health by reducing pressure on the veld" (Klein & Cruz-Uribe 1989:90).

They go on to assume that male lambs would have been culled as they do not produce milk and only a few are needed for reproduction. At both sites, the age (mortality) profile of the sheep appears to be concentrated in the first 10% of potential

lifespan but Kasteelberg A also contains a number of adults in the 40-50% of potential lifespan. The authors interpret this anomaly through ethnographic analogy, as confirming the "kind of rational flock management strategy we would expect to find in a stockpost midden" (*ibid* 1989:91). KBB, however, poses an additional problem as it contains very few older, post-prime individuals and this anomaly is explained away by a "narrowing of seasonal occupation" to a period when seal were more common and the need to slaughter sheep diminished. It is clear from these discussions that the age profile of sheep remains from Kasteelberg is difficult to explain using the conventional interpretations offered by archaeologists.

The dominance of sheep in the faunal sample from Jakkalsberg in the Richtersveld, Northern Cape, suggests that it represents a pastoralist site, occupied around 1300 BP. Dental remains from the Jakkalsberg A site were too fragmentary to allow accurate age profiles but the post-cranial remains suggest that all classes, from newborn to fully adult, are represented (Brink & Webley 1996). The dental remains from the Jakkalsberg B site show that there is no clear focus on a specific age class since newborn to adult individuals represented. The sample is not dominated by juvenile individuals as is the case with Boomplaas (von den Driesch & Deacon 1985), Die Kelders (Schweitzer 1974) or Kasteelberg (Klein & Cruz-Uribe 1989). The sex ratio for Jakkalsberg B, based on intact pelves, is 6 males and one female. The age profiles of sheep remains from Jakkalsberg therefore, do conform to the ethnographic observations presented above.

Finally, the analysis of a faunal sample collected by Robertshaw (1978) from a recently abandoned pastoralist camp-site at Sendelingsdrif, also in the Richtersveld, confirms that all 23 individuals represented at the site were between the ages of 24-30 months. This last observation confirms the accounts of contemporary pastoralists in Namaqualand, namely that young adult or adult sheep and goats are preferentially slaughtered for maximum meat gain. Ethnographic accounts clearly show that contemporary herders/foragers seldom slaughter livestock under the age of 12 months. The most likely explanation for the dominance of juvenile animals in archaeological sites would relate to high juvenile mortality rates and this is an issue which needs to be examined in greater detail.

How does one explain the differing percentages of domestic stock at post-pottery archaeological sites? Elsewhere (Webley 1986), it has been proposed that larger numbers of domestic stock were slaughtered at aggregation sites (summer settlements) and less at the winter dispersal sites (stockposts). This is because pastoralists are able to live from the milk of their stock and the plentiful supplies of plant foods (*veldkos*) which are available in winter and spring. It was also observed that rituals and ceremonies occur more frequently at the summer aggregation sites, resulting in an increased incidence of slaughtering.

Sadr (2004:5), suggests that sheep-poor sites "represent everyday living sites" while sheep-rich sites represent the "location of special activities" and more specifically, the locations for feasts. These feasts are defined as "events constituted by the communal consumption of food and drink for special purposes". These events may be celebrations of initiation, marriage, birth or death. Sadr (2004) is of the opinion that feasts sites may be recognized archaeologically through the presence of certain unusual artefacts, such as shale palettes, Turbo shell pendants, warthog tusks, *etc*. While this paper supports the hypothesis that larger numbers of sheep remains will be found at aggregation sites (which tend to coincide with increased ritual activities), it does not necessarily follow that pastoralist groups specifically aggregate in order to undertake ritual activities.

Sadr discusses the evidence for feasting at Kasteelberg, and mentions with regard to KBA that there are many sheep cranial bones (Sadr 2004:9) present in the site. He postulates that this could "point to preferential consumption of sheep brains, which also have a high fat content or it may indicate the display of sheep heads as trophy". It is not clear why he believes sheep brains should be preferentially consumed at feasts since they are clearly only one component of the entire sheep carcass. His discussion on whether the feasts held at Kasteelberg in the late first millennium could be considered a "promotion/alliance" or "competitive feasts" and his further speculation on whether the local population "was throwing solidarity, reciprocal, solicitation, promotional, competitive, political, work-party or child-growth feasts" (Sadr 2004:12) is surely hypothetical and not grounded in the types of ceremonial activities which are discussed by the 17th century travellers to the region.

CONCLUSIONS

This paper does not attempt to emulate Binford's (1978) work on the Nunamiut Eskimo of North Central Alaska. It is an ethnographic rather than an ethno-archaeological study as I have been concerned with the butchery behaviour of the Nama, rather than with the analysis of the bone remains as a reflection of the butchery on the faunal assemblage. The study is not concerned with the relationship between human behaviour and a specific faunal assemblage. There are no observations on bone breakage, patterns of attrition or butchery marks. However, faunal collections have been made from a number of bone middens in Namaqualand and the differential frequency of anatomical parts as well as butchery marks awaits analysis.

In addition, the observations discussed above have not been compared with those made on hunter-gatherer groups. Yellen (1977), for example, observed a single butchery episode amongst the !Kung Bushman, which he described as "conforms to the standard pattern" (Yellen 1977:280). This contrasts with the very high variability which Binford (1978) recorded amongst the Nunamiut. The problem with drawing comparisons with hunters such as the San (Yellen 1977), Hadza (O'Connell & Hawkes 1988) or the Nunamiut (Binford 1978) is that many of the decisions regarding butchering are premised on the fact that the animal has been hunted and killed some distance from the settlement. Transportation of the meat therefore becomes one of the prime considerations in the sub-division of the carcass into various anatomical parts. Nevertheless, this study does suggest that the Khoekhoen descendants have a system of sharing which more closely resembles the !Kung (Yellen 1977).

This study has presented an overview of historical and ethnographic accounts related to slaughtering amongst the Namaqua Khoekhoen in Namaqualand and related Khoekhoen groups in the Northern Cape. It is concerned with documenting the strategy employed by current semi-sedentary pastoralist groups in Namaqualand when butchering domestic stock. It

does not presume to suggest that these same strategies were also employed in the prehistoric past. However, it does question the assumption often made by archaeologists that herders would have managed their flocks to "maximize meat and possibly also milk yields" Klein and Cruz-Uribe (1989:91). It suggests that there are problems with regard the interpretations which have been offered for the age and sex of sheep remains from archaeological sites. The contemporary ethnographic record from Namaqualand offers some interesting alternative perspectives which may allow us to consider faunal remains from archaeological sites from a different perspective.

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VESSELS FOR THE ANCESTORS: CUPULES AND THE ANNUAL RAIN-CONTROL CYCLE IN THE SHASHE-LIMPOPO CONFLUENCE AREA

M.H. SCHOEMAN & M. MURIMBIKA

Department of Anthropology and Archaeology
University of Pretoria
Pretoria, 0002

School of Geography, Archaeology and Environmental Studies
University of the Witwatersrand
Private Bag 3,PO WITS, 2050

alex.schoeman@up.ac.za and blackroxes@yahoo.co.uk

ABSTRACT

Cupules found on hilltop sites in the Shashe-Limpopo Confluence Area (SLCA) are linked to the annual cycle of rain-control. We establish this connection by combining Venda ethnography and the location of cupules on rain-control sites. Ethnographic information from the Limpopo Province re-counts that cupules are used in Venda asking and giving thanks for rain. On SLCA rain-control sites cupules often cluster around rock tanks or water retaining areas and are found in rock tanks or small pools. An un-eroded pecked cupule at the base of one of the rock tanks, below Leopard's Kopje deposit suggests that cupules became part of SLCA farmer rain-control in, or immediately before the K2-Mapungubwe period.

INTRODUCTION

Round cup shaped hollows occur on a wide variety of sites and rock surfaces, both vertical and horizontal in southern Africa. These hollows range in width from approximately 20 to 120 mm. Cupules should not be confused with grinding hollows, which are wider (more than 120 mm) and shallower. Huffman (personal communication 2002) contends that large cupules [(wider than 120 mm, also known as dolly holes)] on Mapungubwe hill are postholes. Smaller cupules, however, have remained an enigma. While Taçon et. Al. (1997) assert that cupules are symbolically marking the landscape, their origin(s) and use(s) has(ve) remained largely unexplained. A combination of excavation archaeology (first author) and ethno-archaeology (second author) has uncovered a probable link between farming community rain-control and cupules on horizontal surfaces.

Historic and ethnographic accounts record a limited set of places used in rain-control by southern African farming communities. These are the graves of previous chiefs (Fourie 1921; Schapera 1930; Mönning 1978; Krige 1963), hills (Berglund 1976; Hughes 1957; Mönning 1978; Schapera 1930, 1971; Stayt 1968; R. Munyai pers. comm. 2002), caves or small rock shelters (Schapera 1971; Hughes 1957; Mönning 1978; Berglund 1978) and pools or other places of water (Berglund 1978; Hunter 1936; Thelejane 1963; Schapera 1971). Frequently these features are combined into 'ideal' rain-control places. For example in the late 1800s, Chief Lentswe, a Tswana rain-controller chief, had his rain-enclosure in a small shelter on a hill behind his mother's homestead, and his rain-hill had a pool and a shelter (Schapera 1971).

Hilltop sites on the farms Armenia, Little Muck, Machete and Rhodes Drift in the SLCA were chosen and excavated (Fig. 1) to assess whether this association between hills and rain-control applied to the Leopard's Kopje period. These hills were selected because they are steep sided with difficult or impossible access for cattle, have insufficient space for normal homesteads, and have deposit with farming community material culture. Parallel to the excavation of these sites, ethnographic information on rain-control was collected from Venda and Pedi communities in the Limpopo Province of South Africa and Shona communities in southern Zimbabwe.

Excavations found unique material culture signatures and consequently linked the hilltop sites with rain-control. The excavations yielded Leopard's Kopje and hunter-gather material culture, which Schoeman (n.d.) suggested indicates complex co-operation between SLCA hunter-gatherers and farmers in rain-control. All the hills were marked with cupules, which are the focus of this paper.

ETHNOGRAPHY AND RAIN-CONTROL

Rain-control frequently has been taken out of its broader context, and early twentieth century ethnographic case studies focussed on the single 'rain-making' ceremony at the beginning of the agricultural season. These ceremonies often

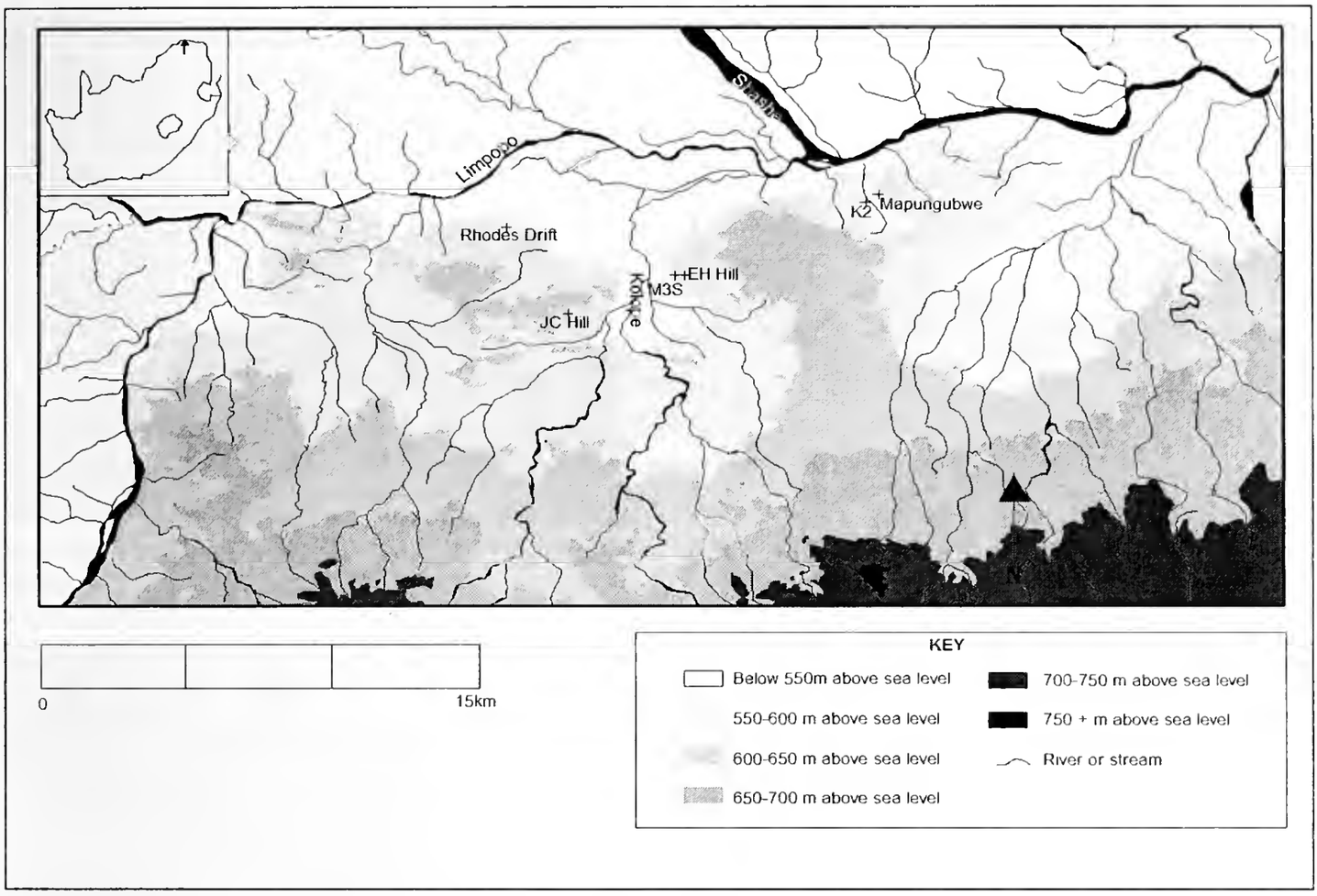

Fig. 1. Map of Shashe-Limpopo Confluence Area with excavated rain-control sites indicated.

are associated with sacrifice (*cf.* Beemer 1935; Eiselen 1928; Hunter 1979). Rain-control, however, is more complex than this single ritual; rather it is a whole cycle of rituals and ceremonies performed throughout the traditional calendar. Generally, communities ask for rain towards the start of the agricultural season, celebrate and ritualise the collection of the first fruits, and after harvesting people thank the "owners of the land" (the ancestors) for the rain and the harvest (*cf.* Gelfand 1956; Stayt 1968). None of these ceremonies can be omitted. Rain-control also includes preventing hail and protecting homesteads from lightning.

This cycle of rain-control rituals and ceremonies are very important in the traditional socio-political and agro-economic life of farming communities. Therefore, it is the chief's responsibilities to co-ordinate them. The extent of control depends on how centralised his power is. The Venda people of the Limpopo Province have amongst the most centralised rain-control cycles in southern Africa. In Venda communities no person may treat drought, conduct planting (*usonda*) or harvest thanksgiving (*tevula*) ceremonies before the royal family had done so. Failure to comply could result in punitive sanctions, for example tradition recounts that in the old days, any lower chief or headman, who conducted a *tevula* ceremony before the chief, was tried for treason (Stayt 1968).

Treating Drought

Stayt (1968) recorded no annual Venda rain-control ceremonies. If all taboos were observed, and everything was done in the proper way, the rain did not stay away (Stayt 1968). If the rain failed, oxen and money were sent to the Mwari center in Zimbabwe. If the drought continued after this, a *n'anga* was called to divine on the cause. The two most frequent causes were taboos being broken and angry ancestors. If the cause of the drought was divined to be a broken taboo, corrective steps were taken. If an ancestor was upset, he or she was identified and people were summonsed to the *tshikona* dance. This was often held within hearing distance of the offended ancestor, while the chief and his relatives visited the grave to perform the *phasa madi* ceremony. Oral traditions recalled that people used to gather at the old capital Dzata to dance the *tshikona* while the chief prayed for rain (Stayt 1968).

If the drought continued, the chief called the diviner-of-seeds (*maine vha u fungo*) to organize the ceremony to put the country right (*mudzivho*). The *maine vha u fungo* was not a rain-controller. His duty was to prepare the earth for rain. There were two ways to conduct the *mudzivho*. The first way involved children, who were given small sticks and stones rubbed in medicine. The medicine was made from crab, *fukwe* bird, meal from women's stampers and scraps of clothing. The children placed these treated items at all crossroads, rivers, drifts, boundaries, and paths that lead to the district. Simultaneously, other children poured water on the chief's ancestors' graves. This cooled their anger and showed them that their people needed water. In the second

ceremony, children were given branches dipped in magical fluid, with which they damped out all fires in the community. After this a *n'anga* lighted a fire at each petty chiefs homestead, from where women fetched fire (Stayt 1968).

If it still did not rain, the chief called a finder-of-the-rain (*maine vha mvula*). One of the *maine vha mvula,* Stayt (1968) interviewed, said that he took powdered dried crab and *fukwe* bird and mixed it with scraps of refuse cast up by the river in the last flood. He put some of this mixture on a piece of broken pot, which he in turn placed over a fire on the veranda of his house. When the fumes of this mixture began to rise, he went inside the house, where he covered himself with blankets and consequently perspired. He stayed covered the whole day. Soon the clouds appeared drawn by the fumes, and raindrops fell drawn by the sweat. Another *maine vha mvula* told Stayt (*ibid*) that he played the *phala-fhala* horn vigorously to induce perspiration, which attracted the rain.

The authors' field assistant Mr Rhudzani Munyai, grew up in Dambale Village, Venda. At Dambale Village, people combined the duties of the *maine vha u fungo* with those of the *maine vha mvula*. In times of drought, the chief instructed the people of the district to extinguish all fires on a prescribed day. The *maine vha mvula,* Mr Josias Mutundudzha, lit a new fire using fire-sticks at the chief's place. Once the rain-control was completed, all the villagers would fetch fire from the chief's fire and to re-light their own fires. On this day of exting-uishing and relighting of fires, the *maine vha mvula* in Dambale used to lead a procession into the mountains to procure rain[1]. The procession consisted of the *maine vha mvula*, a group of young women in the middle and a man at the back. The young women carried palm baskets on their heads. These baskets contained raw sorghum or millet, and un-brewed beer. The food and beer was raw, as the Dambale ancestors' preferred uncooked food and drink. Once the procession reached the top of the hill the food was placed in small hollows in the rock. These hollows were probably cupules[2].

Tevula ceremony

At the end of the season Venda people gave thanks for the rain and the harvest in the *tevula* ceremony. The *tevula* was the most important ceremony in the Venda kingdom, and consequently was one of the most elaborate of all public functions. It was performed after the harvest and before the new farming season commences (Stayt 1968). Harvesting in the Venda kingdom took place in winter after the 'first frost' when the grains have hardened. Once harvested the crops were processed and stored. Subsequently, the Chief initiated preparations for the *tevula* ceremony.

Styat (1968) recorded that the Chief's ritual sister *(Makhadzi)* normally lead the *tevula,* unless she was out of favour with the ancestors. We, however, were told that the Chief marked the beginning of the *tevula* by inviting a *n'anga* to divine who should lead the ceremony. It, nevertheless, remained the responsibility of the *Makhadzi* or the chief's brother (*Ndumi*) to prepare for the ceremony and guide the leader. Once the leader was appointed, young (pre-pubescent) royal girls were recruited to help brew the ritual beer *(mpambo)*. Only pre-puberty girls and post-menopausal sexually inactive women participated in brewing *mpambo*. On the day of the ceremony the royal sacred site (*zwifhoni)* was set up in preparation. The *zwifhoni* is usually at the back of the *musanda* (Loubser 1991), where access is restricted to a few royal elite. The royal ceremonial regalia *(zwithungula)* were placed in a palm leaf basket (*mufaro*) ready to be carried by the ceremonial leader to the sacred site. The sacred ritual objects included a ritual axe, spear, walking stick and other weapons passed down from the royal ancestors. A ceremonial cloth (*riwenda*) was also included with the *zwithungula*. The ceremonial leader carried the *zwithungula* to the *zwifhoni*. S/he also was responsible for carrying the *mpambo*, which at this point was in wooden ritual pots or containers.

To start the ceremony, the ritual beer and the ritual objects were laid down. Next, the ceremonial leader poured *mpambo* on the *zwithungula* addressing the royal ancestors. S/he thanked the royal ancestors for a good rainy season and harvest. S/he also addressed the ancestors on issues affecting the society, and requested good rains and favourable conditions for the next farming season. The other royals took turns to pour libations and address their ancestors on different national and family issues. They also symbolically shared the *mpambo* with the ancestors by sipping it without holding the container.

After the completion of the main *tevula* ceremony at the Chief's village, petty chiefs and headmen were free to hold their own ceremonies. The core procedures at these *tevula* were similar with minor local differences. When the *tevula* ceremonies were complete, the next cycle of rituals and ceremonies associated with agricultural practices began when the chief summonsed rain specialists to conduct the rain-control rituals for the next planting season.

Tevula variations

There were regional variations, for example the Venda Tshivhase royals conducted an elaborate *tevula* during which they went to the *zwifhoni* accompanied by a cow representing the female royal ancestor (*nyatema*), and a royal bull representing the male royal ancestor (*makhulu* Tshivhase). When it was time to drink the *mpambo* beer it first was given to the two cattle to drink. Some of the beer was poured on back of the cattle while people addressed the ancestors. In another *tevula* involving cattle the *Makhadzi* sprinkled beer on a sacred bull and cow (Stayt 1968).

During our 2002 field research in Chief Tshikunda-malema's area we documented details of another slightly different *tevula* in Dambale village. The Tshikundamalema royals used to conduct their *tevula* at a sacred rock shelter near Dambale village (Fig.2). This *zwifhoni* site is located far away from the royal village, in the mountains, as opposed to the others, which are at the back of the *musanda* area. In addition to the difference in location, there was another deviation in the Dambale *tevula* ceremony. A handful of seeds from the new harvest was collected and taken together with the *zwithungula* to the *zwifhoni* site. At the sacred cave, the seeds were placed in cupules. The *mpambo* beer was poured in the cupules as the ceremonial leader addressed the royal ancestors. This is slightly different from all other versions of *tevula* we heard about or documented: In addition to the use of cupules seeds were offered to the ancestors in addition to the *mpambo*. We visited the cave at Dambale,

Fig.2. Photograph of the sacred shelter near Dambale village where the Tshikundamalema royals used to conduct their *thevula* ceremony.

Fig. 3. Photograph of the cupules used during the *thevula* ceremony at the Dambale shelter.

Fig. 4. Photograph of JC hill on Armenia viewed from the south.

which is no longer used for ritual purposes. The rain specialist died several years ago and had no successor. Consequently, there were no objections from the Dambale elders to our presence at the sacred site. The Dambale *zwifhoni* site is located at the base of a mountain, and an Iron Age site stretches out in front of the shelter. Unfortunately, we were not able to collect diagnostic potsherds to identify the cultural group or relatively date the farmer site. The shelter walls are marked with San rock art. The cupules at the cave ranged in size from three to ten centimetres in diameter and some clustered near a shallow water collecting hollow (Fig. 3).

The location of the Dambale *zwifhoni* site is reminiscent of other Venda *midzimu* shelters, which are associated with ancient spirits (not family ancestor spirits). Gifts are left at these places and they are visited to treat misfortunes, such as female infertility. Interestingly, San rock art shelters are frequently regarded as *midzimu* places (Loubser & Dowson 1987).

ARCHAEOLOGY AND RAIN-CONTROL

Research on four SLCA rain-control hills highlighted a series of similarities between the sites. In addition to their steep sides, all were linked to caves or shelters, places of water and had been marked with cupules.

2229AC11 on Armenia (JC hill)

JC Hill (Figs 4 & 5) is a long narrow steep sided hill, aligned east-west. Access to the hilltop is through the top of a small cave on the north-western side, or up a southern, narrow crevice. Excavations found K2 ceramics and worked stone in the same stratigraphic context.

Forty-nine cupules of various sizes are scattered over the hill on exposed rock surfaces. While most are located in the hill surface rock itself, two were made in freestanding rocks or boulders. A 3.3m wide rock tank on the western end of the hilltop is surrounded by a concentration of twelve cupules. At the bottom of an adjacent rock tank are two cupules. Four cupules also are found in shallow rain catching hollows in this area (Fig. 6).

2229AD30 on Little Muck (M3S)

M3S (Figs 7 & 8) is a flat-topped, oblong steep sided hill. The deposit has been extensively damaged by rodent activity. In spite of this, we identified daga and gravel remains of at least four structures dating to the period K2-Mapungubwe period. Both K2 and K2-Mapungubwe transitional ceramics were present. In addition to the excavations on the main part of the hill, we excavated a rock tank (approximately 1.7 meters wide) on the southern, raised, bare rock section of the hill. It was filled intentionally, as the location of the rock tank precludes deposit washing in. This excavation yielded K2 / K2-Mapungubwe transitional ceramic shards, bone, beads and two figurine fragments. Below the deposit a pecked cupule was uncovered. Next to the cupule was another concentration of peck marks. This presumably was the start of another cupule (Fig. 9).

Cupules are scattered over the hill, although they seem to concentrate along the edges. This pattern might, however, be misleading as the exposed rock surface is largely confined to the edges, with deposit covering most of the centre. Small clusters (three to four cupules) occur in wetter areas (Fig. 8). One cupule was found on a ledge in a small overhang at the eastern base of the hill.

2229AD35 on Machete (EH Hill)

EH Hill (Figs 10 & 11) is a long east-west aligned, narrow steep sided hill. The hill consists of several distinct sections: steep sided eastern section with no deposit, next a

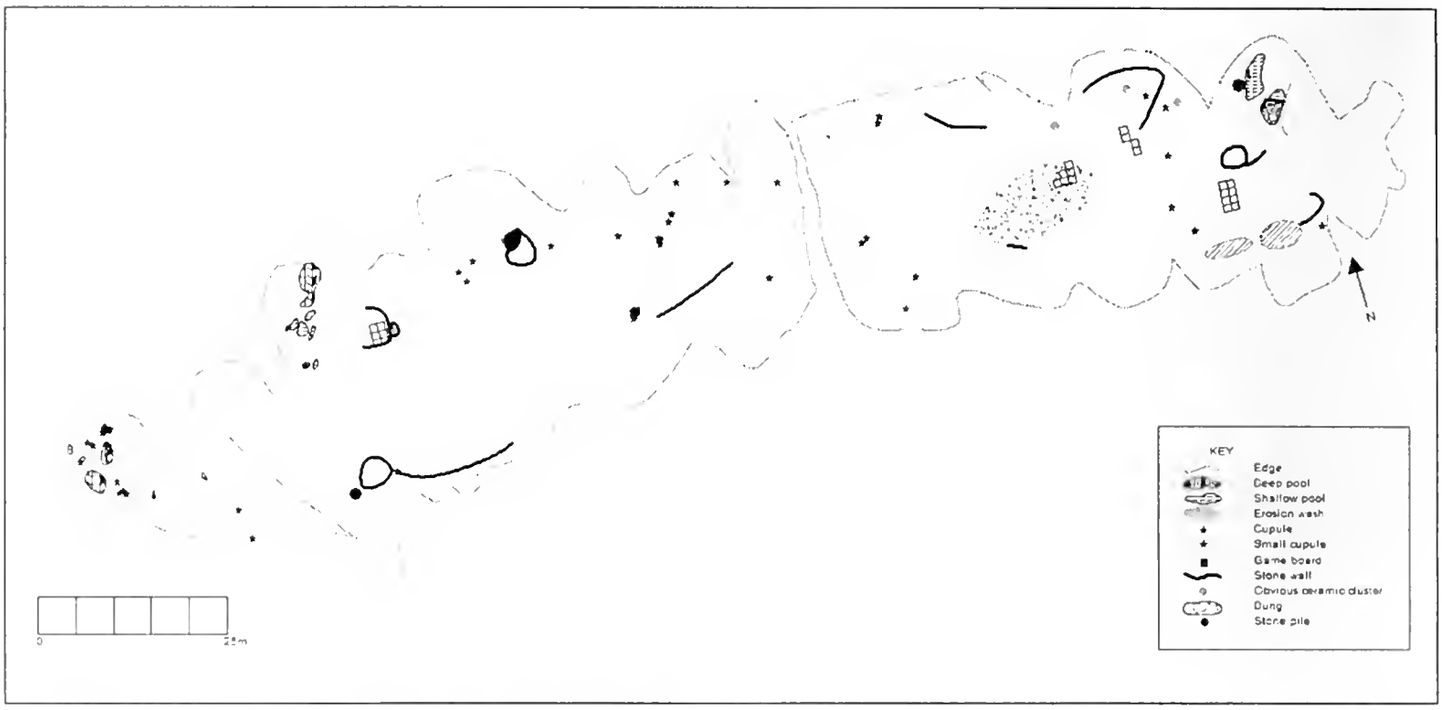

Fig.5. Map of JC Hill, showing the distribution of cupules.

Fig. 6. Photograph of cupules in bottom of rock tank on western side of JC hill.

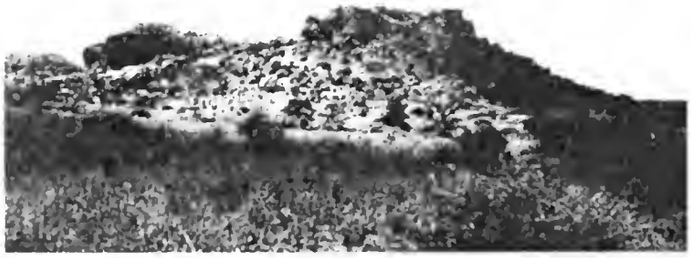

Fig. 7. Photograph of M3S viewed from the west.

deposit rich saddle from where the hill rises steeply to the west. A deep rock tank and six smaller pools of various sizes are located in this area. From here the hill drops down onto a flat area before rising again. Nineteen large rock tanks are located in this section. These rock tanks are above a large shelter. The hill then gently slopes down and adjoins a small higher section with three rock tanks. Between these two areas is a wet area partly fed by the run off.

Excavation on EH Hill was confined to the saddle area. Six stratigraphic layers with gravel floors, a dung concen-tration and grain-bin remains were found. K2 and K2-Mapungubwe transitional ceramics dominated the assem-blage, although a few Mapungubwe and Zhizo/ Leokwe ceramics shards were found. A stone-tool, *Achatina* sp. shell and river pebble cache was found in DP, one of the lower levels.

Cupules are scattered over most of the hill except the lower flat rock tank cluster area, where only one small shallow cupule occurs. Most cupules (forty five) are located on the high mid section (Fig. 11). Thirteen cupules are on the eastern portion and two clusters (five and nine respectively) are located on the western side next to the wet area. One 'portable' cupule (Fig. 12) was found in the excavation.

2229AA73 on Rhodes Drift

The Rhodes Drift site is on a small domed hill, with a small shelter on the western side (Figs 13 & 14). We found the remains of two K2 grain-bins during the excavations, as well as a dung accumulation. The features do not overlap and seem to be contemporary. There are no rock tanks on the hill, but a streambed curls around two thirds of the base. Fifteen cupules are scattered over the surface, but do not cluster.

DISCUSSION

The ethnographic and historic links between hills and rain-control informed the choice to excavate SLCA hills. Excavations of these hills found material culture that did not resemble normal farmer residential remains. Rather, the sites contained a unique mixture of farmer and hunter-gatherer material culture. The material culture signature was not fixed, and changed through time manifesting a gradual disappearance of hunter-gatherer material culture (see

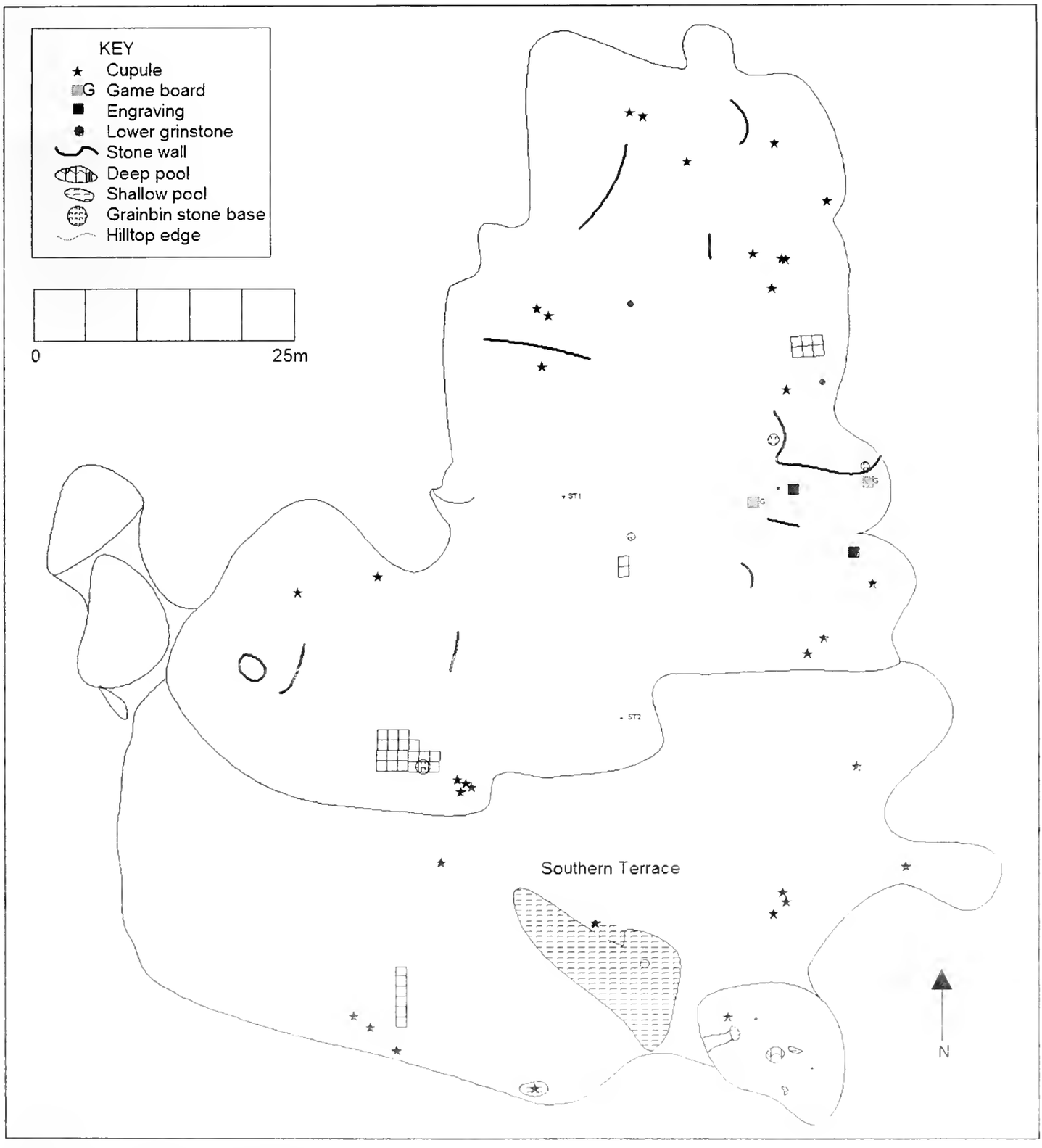

Fig. 8. Map of M3S, showing the distribution of cupules.

Schoeman *n.d*). This, however, is not the subject of this paper, and consequently we will not elaborate here.

All the hills excavated were linked with shelters or caves, and places of water. The SLCA K2 farmers' choice of hills with these topographical features is significant, because ethnographic accounts link these features with rain-control. As mentioned earlier, caves and shelters are used in rain-control. Rain-medicines are often kept in caves or shelters (see Schapera 1971; Hughes 1957; Mönning 1978; Berglund 1978). There is also an association between rain-control and places of water. This relationship seems to be widespread through southern Africa (see Schapera 1971; Hunter 1979; Bourdillon 1991). The Shashe-Limpopo rain-controllers' selection of places to make rain thus drew on the association, prevalent throughout southern African farming communities, of hills, caves or shelters and places-of-water with rain-control.

Concentrations of cupules are found on all the hilltop sites. Excavations at M3S found evidence that link cupule production with the K2-Mapungubwe period. The M3S cupules in the rock tank had un-eroded peck-marks, and were located immediately below K2/ K2-Mapungubwe deposit.

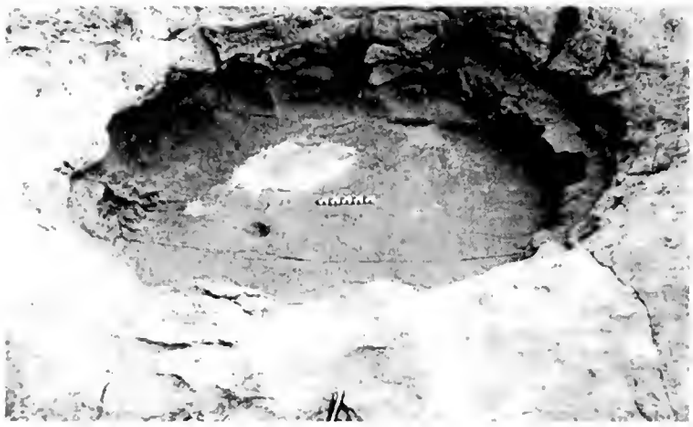

Fig. 9. Photograph of pecked cupules and peck marks at the bottom of the M3 rock tank

Fig. 10. Photograph of Machete hill viewed from the north.

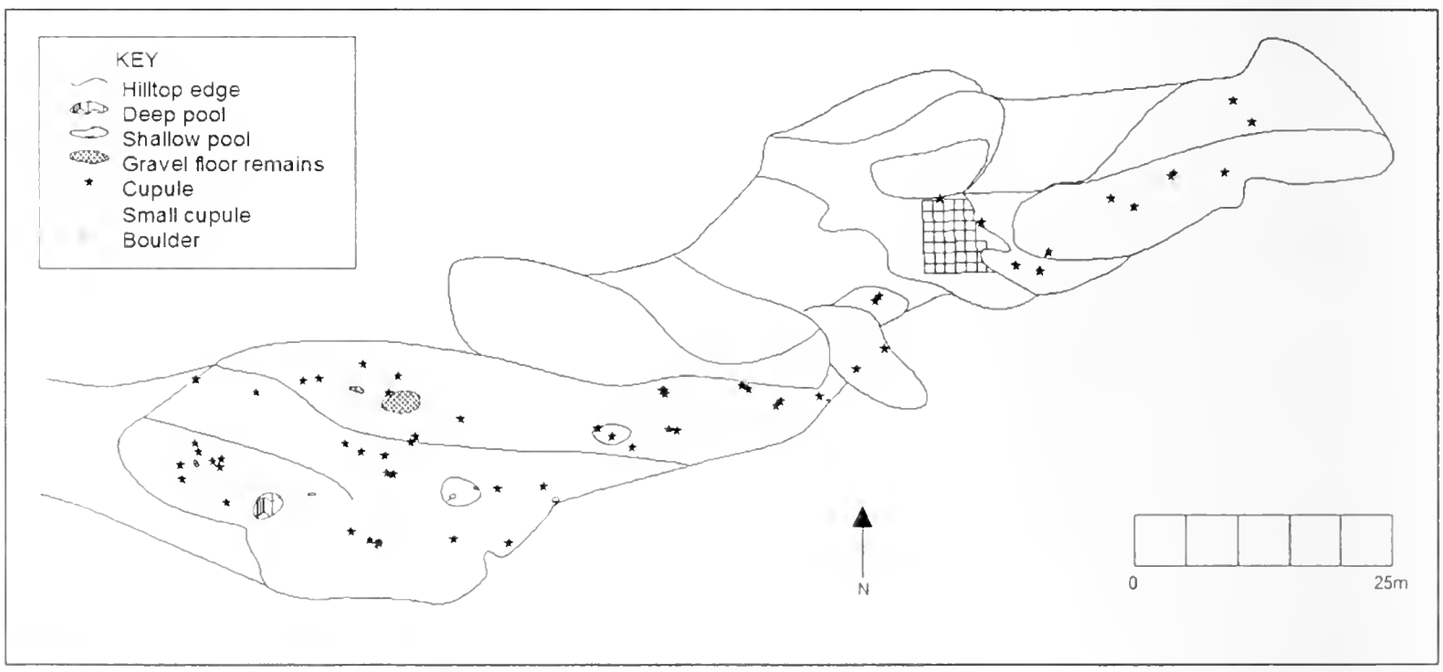

Fig. 11. Map of the eastern section of Machete hill, showing the distribution of cupules.

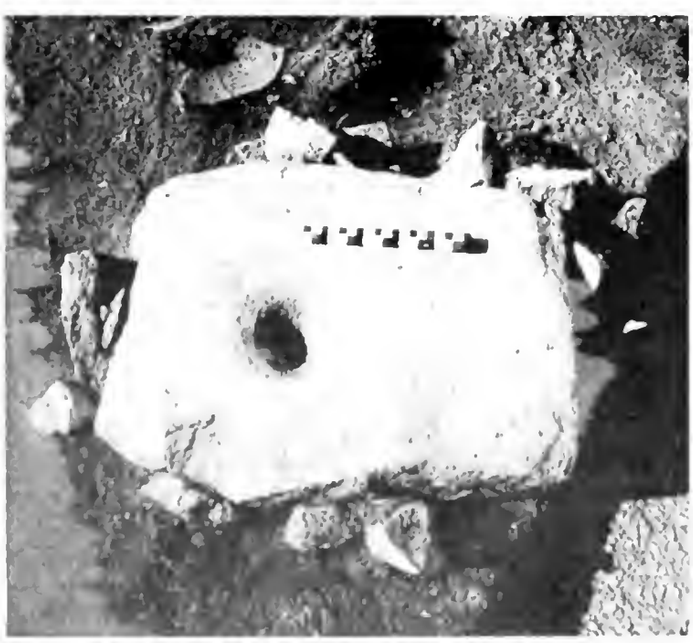

Fig. 12. Photograph of the 'portable' cupule found in the Machete hill excavation.

Fig. 13. Photograph of Rhodes Drift viewed from the east.

The peck-marks on open-air cupules have all eroded away. Consequently, the visibility of the peck-marks strongly suggests that the cupules were made in or immediately prior to the K2-Mapungubwe period. At this time these hills were rain-control places.

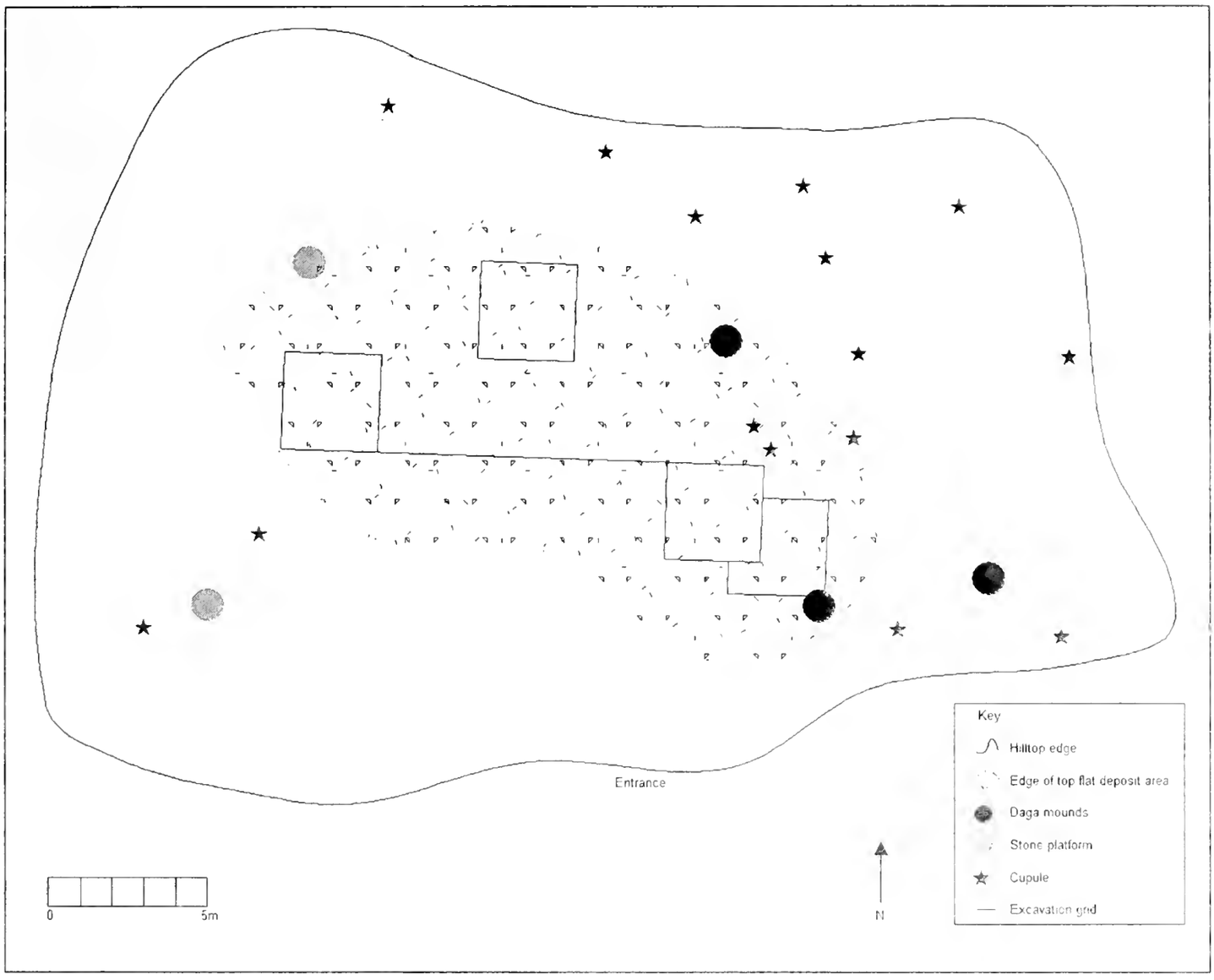

Fig. 14. Map of Rhodes Drift, showing the distribution of cupules.

On the rain-control sites cupules frequently cluster around rock tanks or areas where water gathers. In addition cupules are located at the base of rock tanks on JC Hill and M3S. This location is significant. As mentioned earlier, places-of-water are linked to rain-control, and probably informed the choice of hills for rain-control. The clustering of cupules around places-of-water suggests that cupules might be linked to rain-control. This interpretation is further supported by Venda ethnography, in which people in Chief Tshikundamalema's area used cupules to make and thank for rain. We, however, do not suggest continuity from historic Venda practices to the K2 period.

The Venda are not the only contemporary people to use cupules in rain-control. In Tsodilo Hills cupules, which were probably made during the Later Stone Age, still form part of hunter-gatherer rain-control practices (Siyaka Mnguni pers. comm.). Walker (*n d.*) even has suggested that these cupules might even date back to the Middle Stone Age. This pre-existing link between hunter-gatherers and cupules suggest that cupules were introduced into the K2 rain-control cycle by hunter-gatherer rain-controllers. Similar localised inte-action between hunter-gatherers and the ancestors of the Dambale community might have resulted in their adoption of cupules in rain-control. There, however, are no memories of Venda interaction with hunter-gatherers (Loubser & Dowson 1987) and it is possible that cupules were incorporated in a process similar to the one in which hunter-gatherer rock art and shelters were reworked and re-interpreted in Venda ritual believes as part of *midzimu* material culture (cf. Loubser & Dowson 1987).

CONCLUSION

The combination of excavation and ethno-archaeology concretely links the use of cupules to the rain-control cycle in some southern African farming communities. In the Shashe-Limpopo Confluence Area cupules occur on large numbers on hilltops, which are associated with rain-control. On these hills they cluster around pools or other wet areas. A pecked cupule at the base of the M3S rock tank, under K2 deposit, places the start of their creation and use before or during the K2 period. Interviews with elders in Dambale indicate that the use of cupules in rain-control also took place in the recent past. This, however, does not mean that all cupules are

linked to rain-control. The origin and use of cupules, which are not on known rain-control sites, and are unsuitable for offerings to the ancestors, need to be further investigated. Additionally further ethnographic research needs to be conducted into the production and use of cupules.

ACKNOWLEDGEMENTS

We thank Mr RR Munyai, who first brought the use of cupules in Dambale rain-control to our attention, for his assistance in the field. We also thank the MacWhirters, DeBeers and SANParks for allowing us access to the sites on their respective properties. This research was funded by De Beers (Schoeman), the Mellon fund and NRF (Murimbika).

Footnotes

1. Mr Munyai did not know what happened when they reached the top of the hill. He, however, obtained this account when he interviewed Mrs Mutundudzha, as Mr Josias Mutundudzha, the *maine vha mvula,* passed away in the early 1990s.

2. We could not establish this definitely as Mrs Mutundudzha never accompanied her husband and did not know where the hollows were located. It, however, possible that they are the Dambale shelter cupules used in the thevula.

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LATER STONE AGE BURIALS FROM THE WESTERN CAPE PROVINCE, SOUTH AFRICA. PART 2: LEEUFONTEIN

A.G. MORRIS

Department of Human Biology,
Faculty of Health Sciences,
University of Cape Town,
Observatory, 7925

ABSTRACT

The human skeleton found eroding out of a river bank on the farm Leeufontein in the Murraysburg District of the Western Cape is the first human burial to be fully described from the central Karoo. The skeleton is that of a man older than 50 years at death. The burial was marked with a large cairn of stones, but other than the presence of a single sheep cervical vertebra, there were no grave goods. The individual was buried on his left side in a tightly flexed position. His teeth were very heavily worn with some periodontal disease and he had osteoarthritis in his vertebral column. Although it is not possible to confirm his identity, a radiocarbon date from the mid-17th century and corroborating historical evidence suggest that he was one of the aboriginal San foragers of the region.

INTRODUCTION

In April 1997, the owners of the farm Leeufontein (23.37E; 31.41S), in the Murraysburg District of the Karoo, notified Mr. David Morris of the McGregor Museum in Kimberley that a human burial was eroding out of a river bank on their farm. The McGregor Museum in turn notified the Department of Human Biology at the University of Cape Town, and the burial was excavated as a science class project in April 1998. This paper is the second in a series describing such isolated burials discovered in the Western Cape Province of South Africa (Morris *et al.* 2005).

The farm Leeufontein (Fig. 1) is within the Nama-Karoo biome (Rutherford & Westfall 1986). In previous years it had been stocked with sheep, but under the current ownership it is a game farm on which controlled shooting is allowed during the appropriate season. The veld is predominantly of a Karoo nature, but Acocks has noted that the original ecology of the area was grassveld or transition to grassveld (Acocks 1988). Acocks further notes that the upper elevations are still essentially of grassveld type but that overgrazing and subsequent erosion has been a serious problem in the region. The area has always been marginal for grazing species and the historical records indicate that vegetation was scarce in dry years and that many of the game animals were highly mobile, being more numerous in wetter seasons and rare in drier ones (Skead 1980).

The burial had been exposed by erosion on the upper reaches of a small spruit about one kilometre south-west of the farm house (Fig. 2). The excavation of the grave was technically difficult because the river bank was 2 metres in depth and the exposure was mid-way down the eroded side of the bank (Fig. 3). From a datum point on the top of the bank, a 3 metre by 2

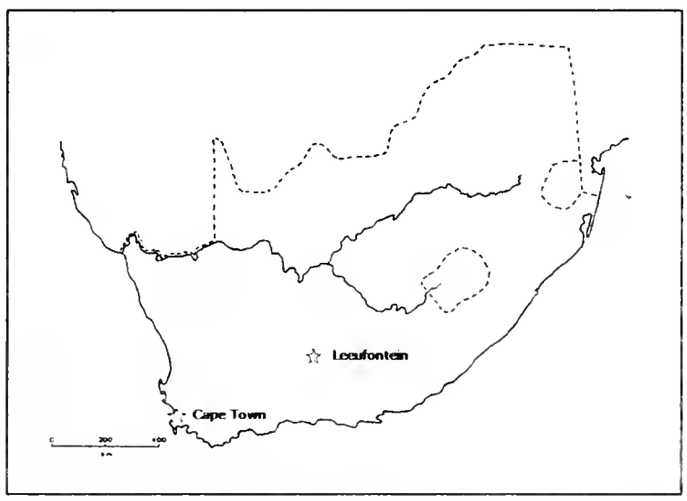

Fig. 1. Map of South Africa showing location of the farm Leeufontein

metre grid was erected using 2 metre long metal rods to keep the grid at the level of the top of the bank. Strings were dropped from the elevated grid, so that a three-dimensional lattice was created enclosing the full site of the burial exposure.

The burial originally had at least 18 stones on top of it, but the cairn had collapsed into the river bed in the slump that had exposed the skeleton (Fig. 3). The skeleton, on excavation, was lying on its left side in a tightly flexed position with the head to the north. The right side of the skeleton was exposed by the slump, and much of the right arm had been washed away and was not recovered. The grave shaft was round and approximately 50 cm in diameter. The highest bones in the burial were about 75 cm below the top of the river bank, and the deepest part of the grave shaft was at 1.2 metres. It is not

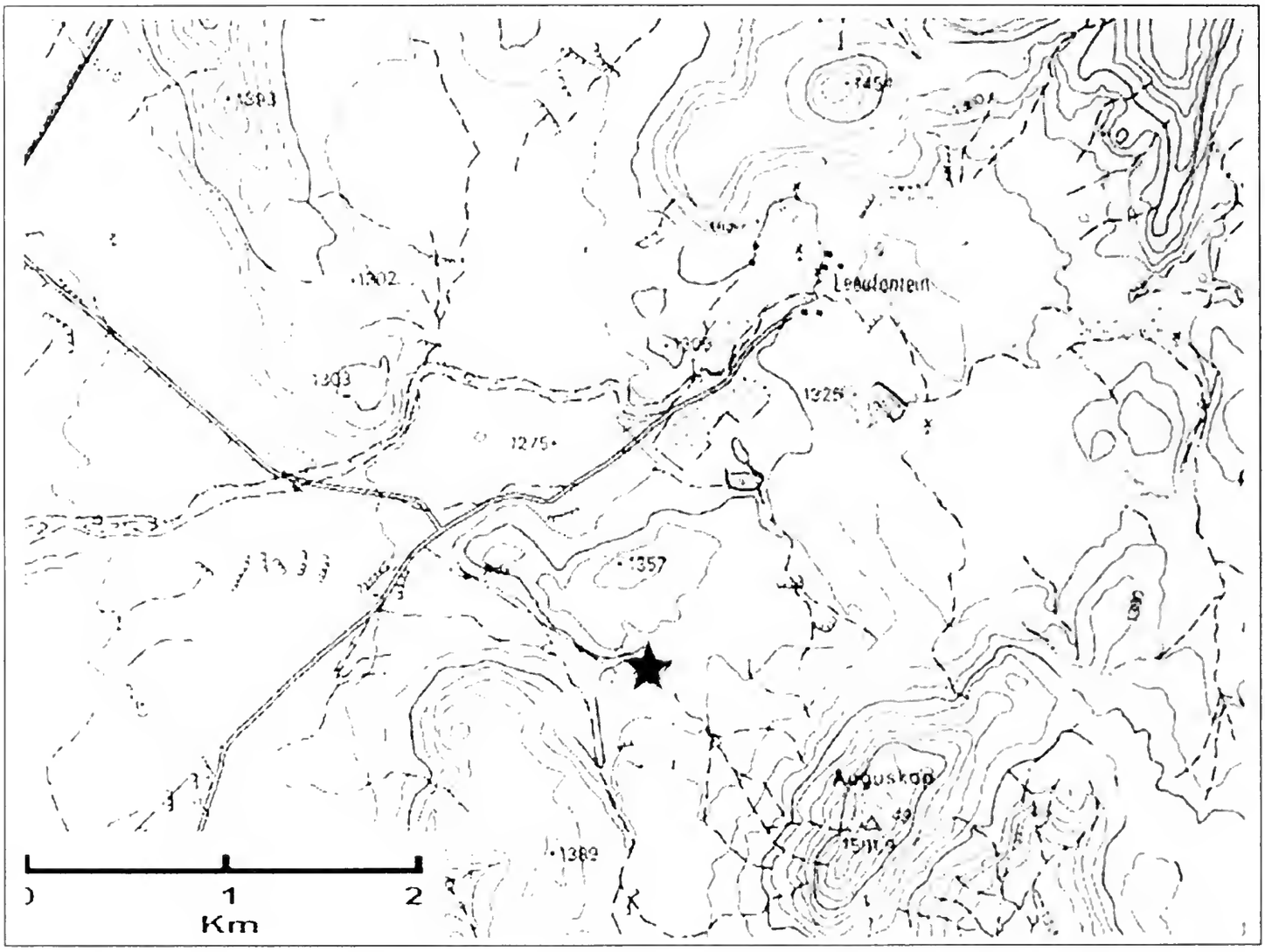

Fig. 2. Map of Leeufontein showing location of burial.

Fig. 3. Photograph of burial in situ in side of riverbank.

possible to identify the original location of the cairn as all of the stones had fallen into the river bed. No grave goods were found with the skeleton, but a sheep atlas (C1) and several small

Fig. 4. Position of skeleton after removal of disturbed bones. Sheep atlas marked by arrow.

mammal bones were directly associated with the undisturbed part of the burial (Fig. 4).

A fragment of right radius was submitted to the Quaternary Dating Research Unit (QUADRU) at the CSIR in Pretoria for dating. The results gave a radiocarbon age of 300 ± 60 years BP (Pta-9370). The Pretoria Calibration Curve provides a range of possible dates between AD 1525 and 1667, but with the most probable date being AD 1649. Given the statistical

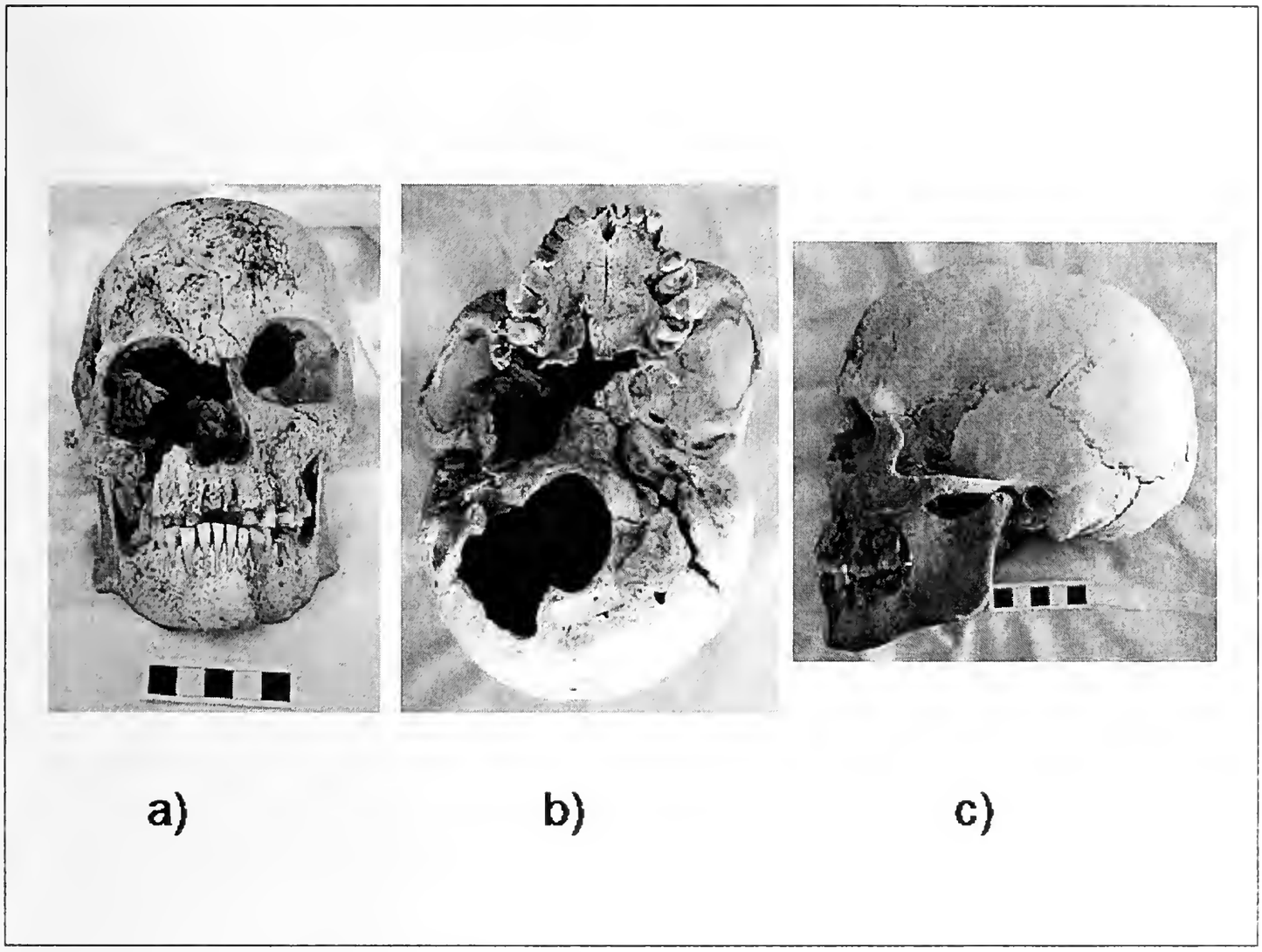

Fig. 5. Cranium: a) facial, b) basal and c) left lateral view.

error around such a relatively recent date, the best dating estimate is that the grave was from the period immediately before the colonial settlement of the region.

DESCRIPTION OF THE SKELETON (UCT 565)

The preservation of the skeleton is only moderate. The exposure of the skull prior to discovery has resulted in the skull being damaged. Most of the vault has been bleached white by the sun and the right side of the skull has been crushed. Subsequent deformation has created a line of distortion from the roof of the medial side of the right orbit posteriorly and medially across the frontal bone (Fig. 5). The right zygomatic bone has been displaced posteriorly. Although the most posterior part of the right maxilla is also displaced, the palate remains undistorted. The right temporal and adjacent parietal bones have been pushed inwards and breadth measurements of the frontal bone and much of the face cannot be accurately measured. The exception is the biorbital breadths that have been estimated by mirror image. The mandible is well preserved and most teeth are present. The two upper central incisors have been lost post-mortem. Cranial, mandibular and post-cranial measurements can be found in Tables 1 to 3.

The post-cranial skeleton is nearly complete despite the exposure by erosion of the right shoulder and the thorax. The right clavicle has been lost, and the right scapula and humerus fragmented. The right hand is complete along with the distal ulna and radius, but the proximal portion of the ulna and radius along with the distal numerus are gone. The ribs of the left side are complete, but the right side ribs are fragmented and some have been lost. The cervical and lumbar vertebrae are well preserved, but most of thoracic elements are fragmentary. The bones of the lower half of the body are more or less complete. The left fibula is broken. The right foot and much of the left foot bones have been lost due to the exposure by the erosion of the river bank.

The sex of this individual is male. Masculine features are well marked on the pelvis, with a narrow sciatic notch, high rounded ilium, and narrow sub-pubic angle. These masculine pelvic features are reflected on the cranium with a strong glabellar and supra-ciliary development, rounded lateral orbital margin, relatively large mastoid and extensive gonial flare on the mandible (Buikstra & Ubelaker 1994, Maat *et al.* 2002).

The skeleton is that of an adult. The medial epiphysis of the clavicle is fused. There is some obliteration of the coronal and sagittal sutures, the rib ends are cupped, and the surfaces of the pubic symphyses, although damaged, are

Table 1: Cranial measurements (measurements in mm).

Maximum Cranial Length	179
Bifrontal Breadth	-
Maximum Cranial Breadth	136
Bizygomatic Breadth	131 (distorted)
Basibregmatic Height	117
Bimaxillary Breadth	-
Bistephanic Breadth	100 (distorted)
Upper Facial Height	64
Biasterionic Breadth	111
Nasion-basion Length	93
Frontal Sagittal Arc	128
Prosthion-basion Length	94
Parietal Sagittal Arc	107
Bimaxillary Subtense	-
Occipital Sagittal Arc	117
Naso-frontal Subtense	-
Transverse Arc	288
Inner Bi-orbital Breadth	96 (mirror image)
Frontal Sagittal Chord	107
Outer Bi-orbital Breadth	104 (mirror image)
Parietal Sagittal Chord	100
Interorbital Breadth (Dac.)	21
Occipital Sagittal Chord	91
Orbital Breadth	39
Nasion-Bregma Subtense	-
Orbital Height	35
Nasion Subtense Fraction	-
Nasal Height	50
Foramen Magnum Length	44
Nasal Breadth	25
Foramen Magnum Breadth	34
Least Nasal Breadth	-
Mastoid Height	26
Maxillo-alveolar Length	49
Least Frontal Breadth	90 (distorted)
Maxillo-alveolar Breadth	63
Palatal Length	44
Palatal Breadth	36
Palatal Height	11

Table 2: Mandibular measurements (measurements in mm).

Bicondylar Breadth	110
Bicoronoidal Breadth	90
Bigonial Breadth	100
Bimental Breadth	43
Proj. Height of Ramus	45
Proj. Height of Coronoid	53
Proj. Length of Corpus	73
Proj. Length of Mandible	99
Length of Condyle	18
Breadth of Condyle	9
Sigmoid Notch Subtense	9
Minimum Width of Ramus	34
Symphyseal Height	31
Corpus Height at M2	23
Mandibular Angle	125°

Table 3: Long bone lengths (measurements in mm).

	L	R
Humerus (max)	288	-
Radius (max)	227	-
Ulna (max)	247	-
Femur (max)	410	411
Femur (physiol)	409	407
Tibia (max)	362	363
Fibula (max)	-	-

flat and featureless. All of these features indicate an age older than 50 years (Buikstra & Ubelaker 1994).

The general appearance of the cranium is strongly suggestive of a KhoeSan genetic identity. A number of osteological features are present that are common in KhoeSan populations but rare in other Africans (Morris 1992a). A strong frontal eminence and a distinct mons temporosphenoidalis are visible. The strongest visual similarity of this specimen to the Khoe-San range of variation is in the face which is low and broad with quadrilateral orbits, flattened nasal bones and a shallow palate. The cranial vault is low and the bossed with a pentagonoid shape in superior view.

The stature based on the SA Negro male formula for physiolologieal length of femur is 154.0 ± 2.8 cm (Lundy & Feldesman 1987). The standard ratio of 3.745 times the maximum femur length (Lundy & Feldesman 1989) produces a similar value of 153.55 em.

PATHOLOGY AND SKELETAL ANOMALIES

The dentition of the Leeufontein specimen is both heavily worn and diseased.The occlusal attrition has reached a helicoidal state, and is so severe that the occlusal wear on the lower M1's has exposed the roots on their bueeal sides (Fig. 6). The lower anterior teeth are also heavily worn but there is no incisor rounding. The upper lateral incisors are worn down to near the neck of the teeth, and it is assumed that the missing central ineisors would have exhibited a similar advanced wear pattern. The teeth themselves seem to be relatively healthy and only the right maxillary M3 (of 13 teeth present) is carious, but periodontal disease and alveolar resorption on both jaws is extensive. The upper left first premolar has been lost ante-mortem. The roots of the left maxillary M1 are abscessed, as are the roots of the opposing lower molar (Fig. 7).

Other than the dental disease, the only other visible sign of pathology is vertebral arthritis. Distinet osteophytes are visible at the T10-T11 and L3-L4 body junctions. The synovial joints elsewhere on the vertebral eolumn and at other joints appear normal.

Several skeletal anomalies are present on the Leeufontein skeleton. These have little clinical interest, but are part of the normal skeletal variation in humans. The cranium has some sutural ossicles on the lambdoid suture including a single interparietal ossicle at lambda.

The lower portion of the sternal corpus demonstrates a sternal aperture in the midline. This is not an uncommon oceurrence and originates when the sternal segments form from

Fig. 6. Mandible: occlusal view.

Fig. 7. Dentition: left lateral view.

bilateral centres of ossification. Ashley (1956) reported a requency of 4% in his European sample, but 13% in his East African sample. Saunders (1978) found the anomaly at the rate of 2.4% in Eskimo-Aleuts. Data are not available for archaeological populations in southern Africa.

The Leeufontein individual has an abnormal pre-sacral vertebral (PSV) count of 25. The normal count is 7 cervical, 12 thoracic and 5 lumbar (24), and in this case the extra vertebra is an L6. The sacrum is normal. This anomalous PSV pattern is usually more common in males than females. De Beer Kaufman (1974) has documented that this PSV pattern was present in 10.5% of her South African Negro sample and 14.3% of her San sample. Over all, De Beer Kaufman noted that African populations tended to have more variability in PSV number than other world populations. Not only is the pre-sacral vertebral count distinctive at Leeufontein, but the anomalous 6th lumbar vertebra has a spondylolytic defect. Spondylolysis is the separation of the arch from the vertebra body at the pars interarticularis of the neural arch. It is often interpreted as being the result of exceptional stresses on the back generated by physical activity, but we are still uncertain about it etiology. Recent research has suggested that it is a response to stress on the back in late adolescence or early adulthood (Mays 2006). The only clinical sign may be chronic low back pain. Spondylolysis occurs most frequently on the 5th lumbar vertebra, so its presence here on the last of the lumbars is consistent with other cases, although in this instance the last vertebra is an L6. The defect has been seen before in southern African populations (Morris 1995), and Eisenstein (1978) has noted an overall frequency of 3% in populations of South African Negro origin.

DISCUSSION

Single isolated burials can provide us with a wealth of information about the individual, but drawing links to the broader community from which that individual was drawn remains a difficult task. The Leeufontein man was certainly older than 50 years at death. This relatively old age is not exceptional for living Kalahari San (Howell 1979) as individuals who have survived the peaks of mortality in childhood and young adulthood have a good chance of making it into the older stages of life. The diseases of old age, especially dental problems and osteoarthritis, are consistent with his advanced years. Despite the alveolar disease, the general pattern of dental health is typical of modern San foragers with a low incidence of caries but extremely marked levels of occlusal attrition (van Reenen 1964; Morris 1992a; Sealy *et. al* 1992).

Descriptions of racial attributes are of particularly limited value because we have no idea where in the total range of variation this single individual is placed. That the Leeufontein individual shows KhoeSan craniological features is of interest, but not unexpected in the region from which the burial was excavated. A much more valuable question would be to identify whether the Leeufontein remains represent an individual from a Khoekhoe herder group or a San forager group. Unfortunately the osteological information sheds little light on this question. The two populations are strongly overlapped in morphology and the only consistent feature separating the two groups is stature and dietary trophic level.

Using modern ethnographic data from the literature, Wilson & Lundy (1994) have noted an average male Khoekhoe stature at 162.4 cm and San male stature at 155.8 cm. The Leeufontein man, with a calculated height of 154 cm, falls close to the San mean and in the lower quadrant of the Khoekhoe male range. Stable carbon isotope data do not help, as the Karoo is a predominantly a C4 area and foragers and pastoralists are likely to have similar dietary isotopic fractions (Sealy 1997). All that remains are cultural clues from the burial style and associated grave goods, but even here the data from Leeufontein are ambiguous. The historical literature records an upright sitting posture with no grave goods for Khoekhoe burials (Inskeep 1986; Morris 1992a), but San burials are much more variable. Rich grave goods are frequent occurrences and may have important cultural significance along the southern coastal belt (Wadley 1997; Hall 2000; Sealy 2006). Grave goods are much rarer in the more northerly regions of South Africa (Inskeep 1986; Wadley 1997) and only about half of the San graves along

the Riet River had any form of burial inclusions (Morris 1992a). Therefore the lack of grave goods at Leeufontein cannot be interpreted in any particular direction. The presence of a sheep bone does not help. This could have been an accidental inclusion with the grave fill, but even if the burial of the bone was intentional, it still does not identify the man as a herder or a hunter.

The surveys of burials by Inskeep (1986) and Wadley (1997) failed to record even a single published burial from the Great Karoo, so in essence the Leeufontein burial is a 'first record' for the region. Burials in the inland Karoo region are much rarer than on the coast. Coastal discoveries are frequent because of holiday development and dune erosion, but also because people were closely clustered at marine resource foci and burials are frequently in food middens. There also appears have been a cultural choice in the use of the rock shelters at the coast or in the coastal mountain range as locations for burials. Such a pattern is not present in the inland areas. Rock shelters are rare, but even when they do occur; they are not used as burial sites (Sampson 1972, 1995).

Graves in the Karoo are much dispersed. Morris (1992b) has catalogued specimens from the district in the various museums in South Africa. Of 11 specimens recovered from the Victoria West/Three Sisters/Hanover/Murraysburg areas, almost all were accidental discoveries and very few have excavation data, or even general information about archeological association. One skeleton from Vigilant's Dam, Victoria West (Wits Anatomy A 671) was on its left side, fully flexed and oriented E-W. A second skeleton from Rooiwal, Richmond (UCT 412), was noted as being in an upright flexed position with hands on chest, but further notes with the accessioned skeleton indicate that the skeleton was in an old aardvark hole and therefore its upright posture may have been related to technical aspects of the burial rather than a ritual aspect of 'sitting the body upright'. The same skeleton was recovered with ostrich egg shell beads and a pendant of fresh water mussel shell (Morris 1992b). SAM 5029 from Travalia at Three Sisters has a date of 330 ± 50 years before present (Pta-2350), and a second skeleton from Kruidfontein near Prince Albert has a date of 310 ± 50 years before present (Pta-1884) (Morris 1992b).

Together, these two dates and the new one from Leeufontein indicate that the graves are probably associated with the time immediately before European settlement and it is possible to use historical data to gain a picture of these people. The Karoo itself was marginal for early historic pastoralists and most of the land away from the river systems was occupied by hunters rather than herders. The European intrusion into the area during the 18th century was contested by San groups in what was essentially a low-level war (Marks 1972). Sampson (1972) has reviewed the 'taming' of the frontier in the Zeekoerivier area of the eastern Karoo. Conflict between the San forager groups and the colonial farmers resulted in a series of Commandos against the San. In 1775 one party of Europeans and their Khoekhoe servants killed 503 San and captured 241, the latter mostly women and children. This process of 'pacification' in the eastern Karoo continued until the 1820's and was common on all of the frontier districts (Eldredge 1994). Szalay (1995) estimates that between 3000 and 4000 were killed by the Commandos from the late 18th century to about 1830, yet at least 9000 or as many as 12000 survived and were acculturated as farm labourers. Although much of the San-Settler interaction was violent, there was also a parallel pattern of acculturation in which those San who survived were drawn into the Colonial society. In particular, the San became stockmen of some excellence and entered into service relationship with the Boers. Those few San who survived as independent foragers or herders joined the ranks of the 'farm Bushmen' by the mid-19th century as the closure of Crown lands, collapse of the wild game populations and overgrazing removed their options (Sampson 1995).

The acculturation of the San, whether voluntary or through 'capture', resulted in a nearly complete loss of San identity and a fusion of San with other incorporated peoples in the colonial society (Szalay 1995). Barrow, travelling in the Graaff-Reinet district in the last years of the 18th century, noted that there were only about 600 to 700 slaves in the whole district, but there were at least 10,000 'Hottentots' (Eldredge 1994). By the early 19th century it would have been impossible to easily differentiate between those who were acculturated Khoekhoe, 'Bastards' or San, as all were now effectively dispossessed of independence and culture (Eldredge 1994; Szalay 1995). The introduction of wire fencing and jackal-proof mesh along with borehole technology at the beginning of the 20th century removed the necessity for traditional shepherds. For those KhoeSan of various origins who did not have gainful employment on farms, there was little other option than to live as squatters on the edges of towns in the region. It is from these economically marginalised people that the ranks of the modern "Karretjiemense" were drawn (De Jongh 2002). Folk lore links these itinerant sheep-shearers travelling between farms in their distinctive donkey carts with the last of the San of the Great Karoo, but ethnographic data cannot confirm this. Recent, but still unpublished research by Himla Soodyall of the Division of Human Genetics, National Health Laboratory Service and the University of the Witwatersrand, has suggested from DNA studies that the folk lore may very well be true and that the "Karretjiemense" remain genetically San. If so, skeletons such as that from Leeufontein provide tangible evidence of their roots.

Ultimately, the identification of the man from Leeufontein must rest on the likelihood that the inhabitants of the region in the 17th century were San foragers. The burial style and information from the bones on life habits are consistent with this identity. Perhaps more importantly, the individual from Leeufontein is the first LSA individual to be fully described from the heart of the Great Karoo.

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STONEWALLING IN THE KLIPRIVIERSBERG: ARCHAEOLOGICAL MITIGATION FOR THE ASPEN HILLS DEVELOPMENT PROJECT

T.N. HUFFMAN, L. BARRIE, N. BLACK, K. JAMES, J. LIER, L. MALLEN, S. MOKHANYA, P. SEKGARAMETSO-MODIKWA & S. SMUTS

Archaeological Resources Management,
School of Geography, Archaeology and Environmental Studies,
University of the Witwatersrand, Johannesburg,
Private Bag 3, P.O. Wits 2050

Email: Thomas.Huffman@wits.ac.za

ABSTRACT

Salvage excavations in the Klipriviersberg show that *Uitkomst* pottery was the result of interaction between people in the Fokeng cluster, making *Ntsuanatsatsi* pottery, and Southwestern Sotho-Tswana associated with *Olifantspoort.* Fokeng people also introduced stonewalling to Sotho-Tswana, and at the same time changed their own pattern from Type N to Klipriviersberg. The Nguni origin of the Fokeng cluster explains several aspects of settlement in the region.

INTRODUCTION

Stonewalled settlements are a well-known feature of the hilly areas in southern Gauteng. Although several have been traced from aerial photographs, few have been accurately mapped. A CRM project provided the opportunity to study a cluster in the Klipriviersberg.

The Aspen Hills Development Company commissioned Archaeological Resources Management (ARM) to assess the significance of stonewalled settlements on their property (Portion 37 of *Liefde en Vrede* 104IR) in southern Johannesburg (Fig. 1). In general, mitigation measures are based on the premise that developers are responsible for the recovery of research potential, rather than research itself. Sufficient data should therefore be recorded so that the sites, once destroyed, could still be studied in the future.

A short outline of the Late Iron Age will provide an archaeological context for our mitigation. We then present results.

BACKGROUND TO THE LATE IRON AGE IN THE KLIPRIVIERSBERG

Most Iron Age settlements in southern Africa followed the principles of the Central Cattle Pattern: cattle kraals marked the male domain in the centre of the settlement, while huts and grain bins, surrounding the centre, formed the domain of married women (Kuper 1982; Huffman 1982). Settlement types differ in details, such as the internal arrangement of cattle kraals, the location of small stock kraals, the type of huts and the shape of outer boundary walls. Nevertheless, the types originated from the same Eastern Bantu worldview that emphasized a patrilineal ideology of procreation (one's blood comes from the father), male hereditary leadership, a preference for cattle as bride wealth (lobola) and a positive attitude about the role of ancestors in daily life.

In addition to the same worldview, the different groups had the same general way of life. As various excavations show, Iron Age people were mixed agriculturalists, cultivating sorghum, millets and beans, and they herded domestic stock (*e.g.* Mitchell 2002). As a rule, their settlements were located near soils that could be cultivated with a hoe. In the Aspen Hills area, the stream to the west and the large Kliprivier vlei to the south would have provided ample agricultural land. Because of their agricultural requirements, Late Iron Age farmers would have only been able to live in the Aspen Hills area when the climate was warmer and wetter than today.

In some areas devoid of trees, people with the Central Cattle Pattern turned to building in stone to mark social boundaries. Because of the need for stone, most stonewalled settlements are sited near rocky outcrops. The homesteads are similar in that animal enclosures formed a circle around a central open space, or cattle were kept in a single central kraal. As the height of lintels sometimes shows, adult cattle stayed in large enclosures and calves in smaller kraals. The number of adult kraals reflects the number of cattle-owning families who lived in the homestead. If there was only one family, then only one kraal stands in the centre without a central open space. Usually, the central open space was for milking and other communal activities. In treeless environments, the dung was used as fuel, and so the kraals there often have a concave profile.

Stonewalled settlements dating to the Late Iron Age are well recorded in the larger region. The earliest are known as **Type N** (Maggs 1976) in Free State and Group I (Jones 1939; Taylor 1979) north of the Vaal. They date from AD 1500 to 1700. Type N derives its name from the hill Ntsuanatsatsi, the legendary place of origin of the Fokeng cluster. Type N walling consists of

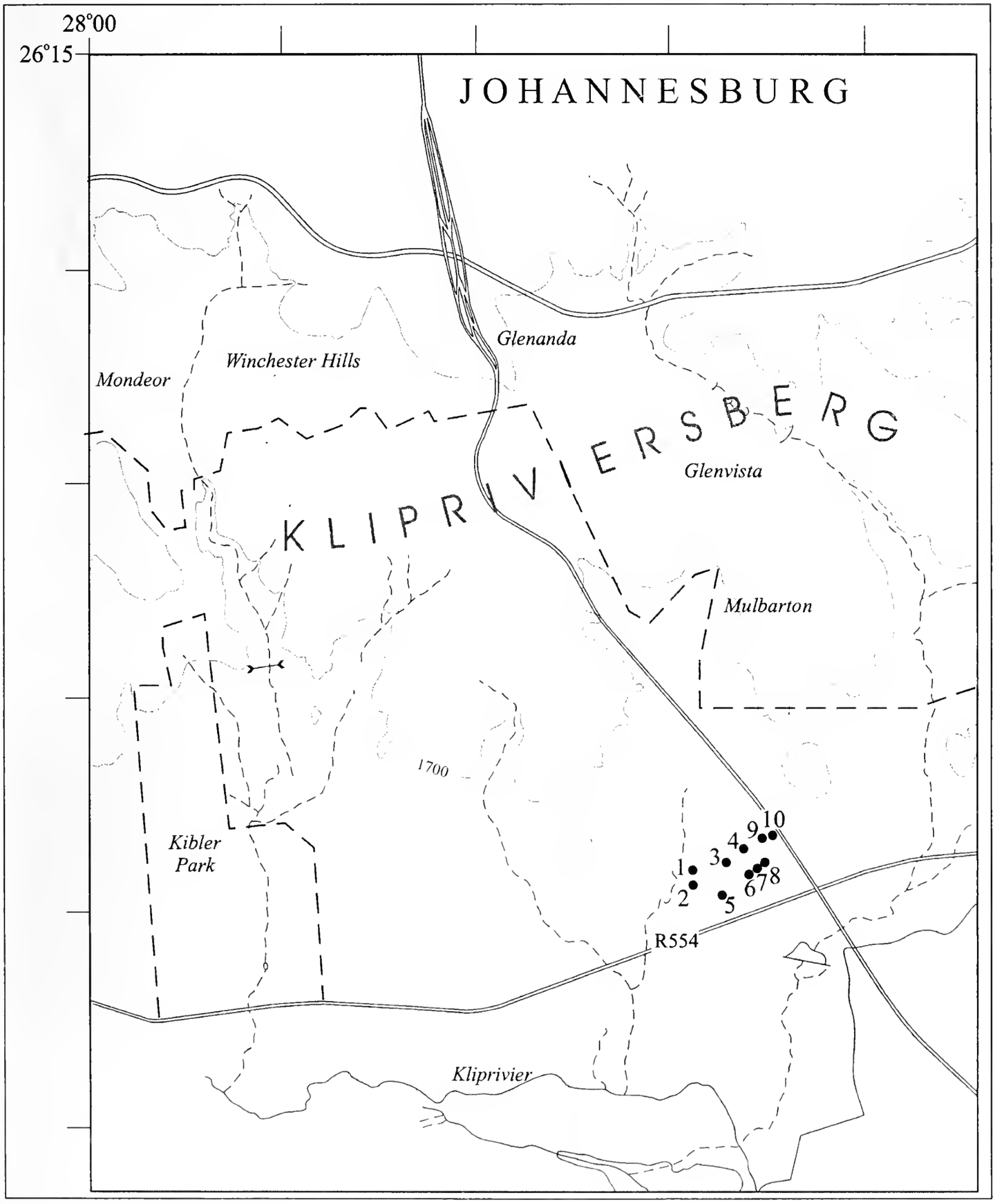


Fig. 1. Locations of Aspen Hills Sites.

a few eattle kraals in the centre, linked by other walls.

Alternatively, only one eattle kraal may be in the eentre. Little usually remains of struetures in the residential zone, but sometimes, stone paving marks the loeation of houses: these houses were probably shaped like beehives. A smooth outer wall that sometimes ineorporates small stoek enelosures surrounds the whole settlement.

In southern Gauteng, Fokeng also built the **Klipriviersberg Type**, or Group III (Taylor 1979; Loubser 1985), between AD 1700 and the Historie Period. Klipriviersberg walling (Mason's 1968 Class 2 & 5) is more eomplex in that aggregated settlements are eommon, the outer wall sometimes ineludes scallops

to mark back courtyards, there are more small stock kraals, and straight walls separate households in the residential zone. Beehive houses are common, sometimes with sliding doors.

Western Sotho-Tswana, such, as Hurutshe and Kwena, built Group II (Taylor 1979, 1984), or **Molokwane** walling (Mason's 1968 Class 6 & 9; Mason's 1986 Bupye). Arcs in the outer wall mark the back courtyards of individual households surrounding the core. Sheep and goat kraals stood between the cattle enclosures and front courtyards. Pole and daga rondavels in the centre established a bilobial arrangement of households (see Maggs 1972). The rondavels themselves included front verandas and were entered through sliding doors (see Maggs 1993; Mason 1986). Molokwane settlements stretch across the hilly areas of Gauteng west to Zeerust (Boeyens 1998, 2000; Huffman 1986; Mason 1986; Pistorius 1992; Taylor 1979, 1984). They date from the late 18th century to the beginning of the Historic Period.

South-western Sotho-Tswana, such as Rolong and Tlhaping, built **Type Z** walling (Maggs 1976; Mason 1986). Similar to Molokwane, bilobial households surrounded the core in a loose circle, with space between each household (Mason's 1968 Class 7). Daga houses with verandas also contained sliding doors. Type Z settlements cover the western Free State and southern portions of the Northwest Province, and one is on record in the Klipriviersberg area (Mason 1986:559). Type Z settlements date from the 17th to the 19th centuries and are thus contemporaneous with Klipriviersberg and Molokwane types.

With this background knowledge, we were able to identify the various ruins to specific types.

DATA AND RESULTS

Method

The ARM team mapped several ruins (Fig. 1), either with a plane table (Sites 1 & 8) or with an EDM (Sites 2-7, 9 & 10). We redrew the plans in the lab and then checked them in the field. In some cases, recent activities have damaged walls, while thick vegetation obscured other portions. To alleviate this problem, the developer cleared vegetation from Sites 9 and 10.

The settlement plans place the middens in their spatial context. Because these settlements were probably not occupied for more than a generation, and animal burrowing disturbed many middens, the team first excavated large (25 cm) spits and then subsequently removed the deposit as a unit. The unit in each case measured 2 x 4 m. All midden deposit (except for a small portion of Midden 5) was sieved using a 5 mm screen.

Bone samples were divided into identifiable and unidentifiable categories and a minimum species list was based on teeth. Faunal specialists can now consider the value of the samples for future analysis.

For descriptive purposes, the ceramic samples were divided into various categories, such as rims, decorated body sherds and so on. Fragments with a soot residue indicate functional categories and were retained. Decorated fragments were identified to facies, that is, the space/time unit used to construct culture-history sequences.

TYPE N SETTLEMENTS

Site 1 and Site 2 lie at the western side of the Aspen Hills kopje about 100 m apart (Figs 2 & 3). Although stone had been removed from both sometime in the past, the overall pattern is relatively clear, and the smooth outer walls show that these ruins belong to Type N. Midden deposits are not obvious at either site, but the scatter of potsherds suggests that rubbish may have been thrown behind each household.

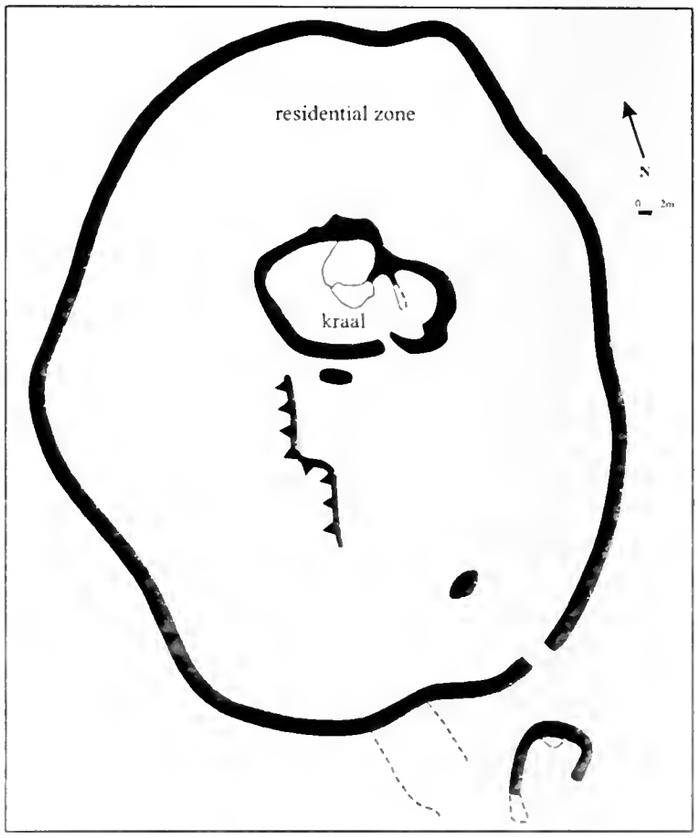


Fig. 2. Plan of Site 1.

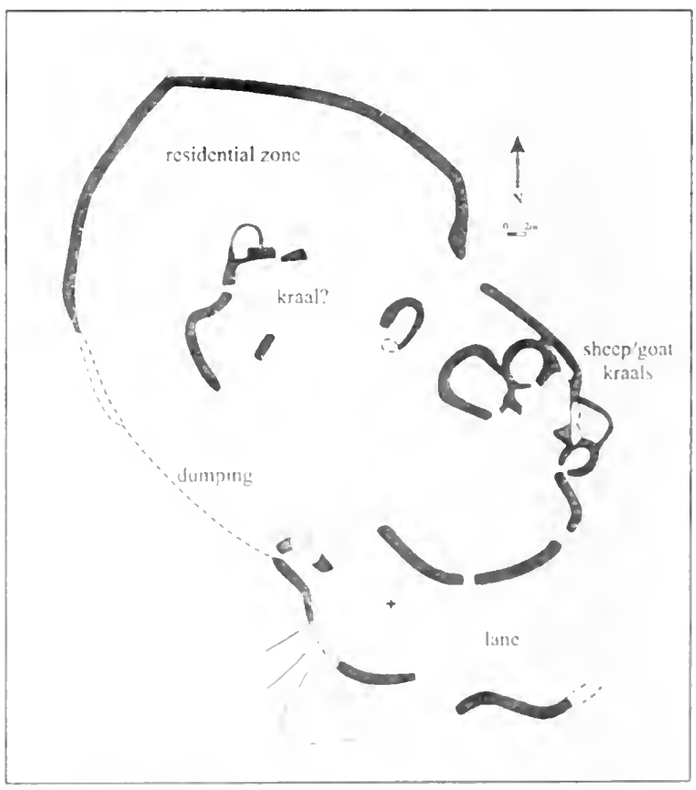


Fig. 3. Plan of Site 2.

SITE 1 (2628AC58A)

Site 1 (26.18.49S; 28.03.10E) is about 50 m across, with an entrance on the south side. The central cattle kraal appears to

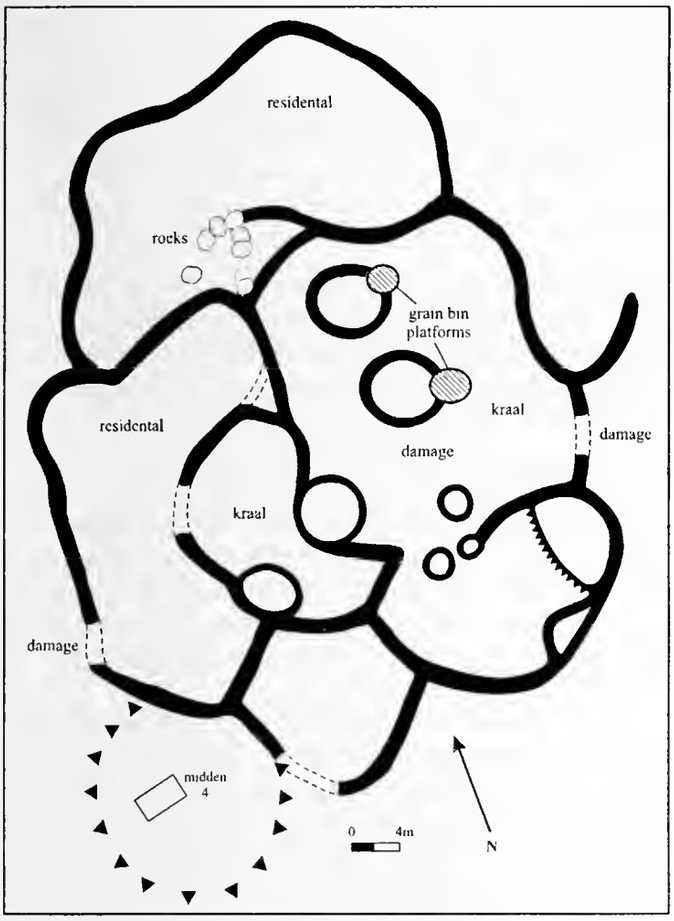


Fig. 4. Plan of Site 4 and loeation of Midden 4.

have an internal division to enclose calves, while a low wall in the residential zone probably helped to separate different households. The function of a small enclosure outside, near the southern entrance, is unknown.

SITE 2 (2628AC58B)

Site 2 (26.18.51S; 28.03.10E) is not as well preserved, but it is larger, about 66 m across, and appears to be more complex. Small enclosures on the outer wall probably sheltered sheep and goats, while walls on the south side probably served as lanes to funnel cattle into the centre.

KLIPRIVIERSBERG TYPE SETTLEMENTS

The remaining sites all differ from the first two in that the central cattle area is more complex and the outer boundary wall incorporates multiple arcs, each marking the back of individual households.

SITE 4 (2628AC59B)

Site 4 (26.18.44.5S; 28.03.22,1E) lies in the saddle of the main kopje in an area highly disturbed by dumping. The walls could not be mapped completely because of heavy vegetation and recent damage, but characteristics of the Klipriviersberg Type are nevertheless clear (Fig. 4). Two solid stone cairns inside the site may have supported grain bins placed on the edge of livestock enclosures. Unfortunately, we were unable to locate entrances or passageways.

A large ash mound stood outside and down slope of the main walling (Fig. 5 above). Animal burrowing was severe, and modern material from dumping lay on the surface. As a result, the excavations uncovered bottles and plastic deep in the deposit. The deposit itself comprised 55-65 cm of largely reworked ash on top of a hard red/brown gravely sub-surface that formed bedrock (Fig. 5 below). A small area on the eastern side may have preserved some of the original stratigraphy: there, thin (±3 cm) lenses of ash, red/brown soil and more ash covered bedrock.

In addition to modern rubbish, the deposit yielded bone and pottery. The bone sample comprises 597 fragments, 282 of which are identifiable (Table 1), including the teeth of cattle and sheep/goat. The faunal sample also includes seven fragments of land snail (*Achatina sp*) and fourteen shell beads. The identifiable portion was sufficiently large to warrant its separation into elements (Table 2).

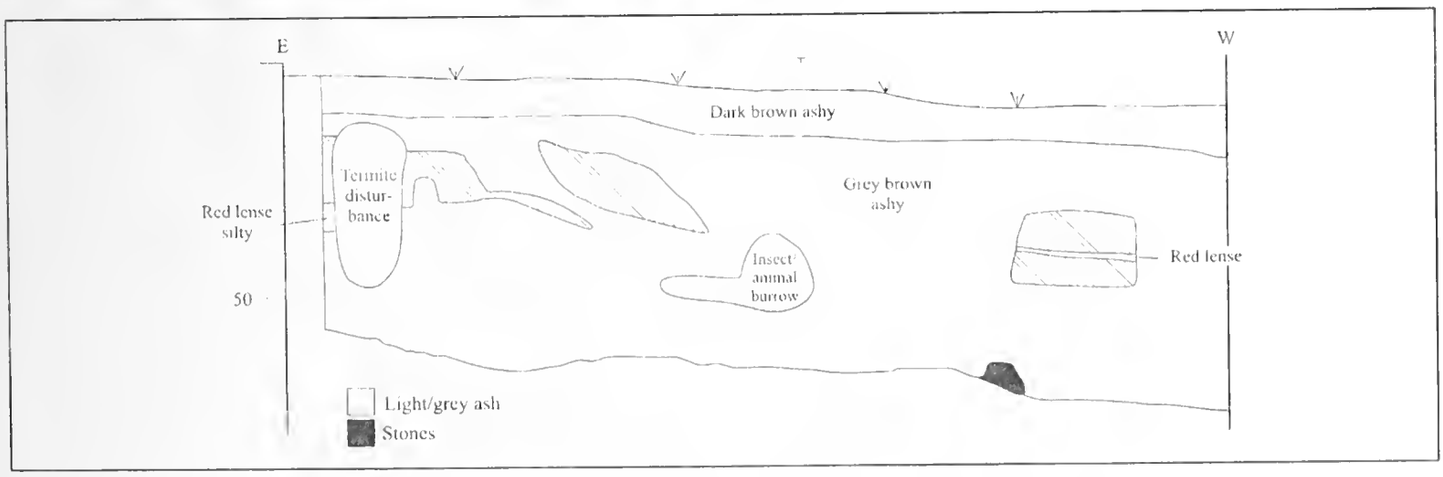


Fig. 5 (above) North face of Midden 4. Note bottle in wall near arrow. (below) South section of Midden 4.

Table 1. Faunal remains from Midden 4.

	Identifiable	Unidentifiable	Teeth	Modified	Burnt	Shell	Other
Midden 4	282	315	38	12	29	7	14 shell beads

Table 2. Bone elements in Midden 4.

Cranial	
Teeth	38
Skull and Jaw	32
Postcranial	
Ribs	117
Spine	12
Limbs	79
Feet	12
Pelvis	15
Scapula	8
Modified	
Burnt	27
Cut/Shaped	14

Table 3. Ceramic remains from Midden 4.

	Rims	Rims	Body sherds	Body sherds	Soot
	decorated	plain	decorated	plain	
Midden 4	5	32	3 115 colour	432	106 4 rims 3 colour 99 plain

The pottery sample from Midden 4 consists of 695 fragments, and includes 37 rims, eight with textured decoration, and 115 sherds with a colour burnish (Table 3). Comb-stamped designs show that it is a single assemblage that belongs to the *Uitkomst facies.*

SITE 5 (2628AC59C)

Site 5 (26.18.55S; 28.03.18E) stands at the south-western foot of the main kopje. It is a large complex about 125 m across. Thick bush in the east corner prevented a complete picture, but it is nevertheless clear that the complex contains two central cattle areas, with entrances on the western side, and at least 12 households (Fig. 6).

Midden 5 lies outside the northwest entrance against an outer wall (Fig. 7). The normal 2 x 4m trench was extended east and south to meet this wall. The deposit was still well preserved, probably because it comprised alternating layers of ash and hard red/brown soil (Fig. 8). Presumably, the hard lenses served to cap the ash.

Midden 5 yielded a relatively large bone sample comprising 1186 fragments, 374 of which are identifiable (Table 4). The teeth represent cattle and sheep/goat. The identifiable portion was worth dividing into bone elements (Table 5).

In total the pottery sample consisted of 345 fragments, and included seven sherds with textured decoration and 64 with a colour burnish (Table 6). The decorated pieces belong to *Uitkomst*.

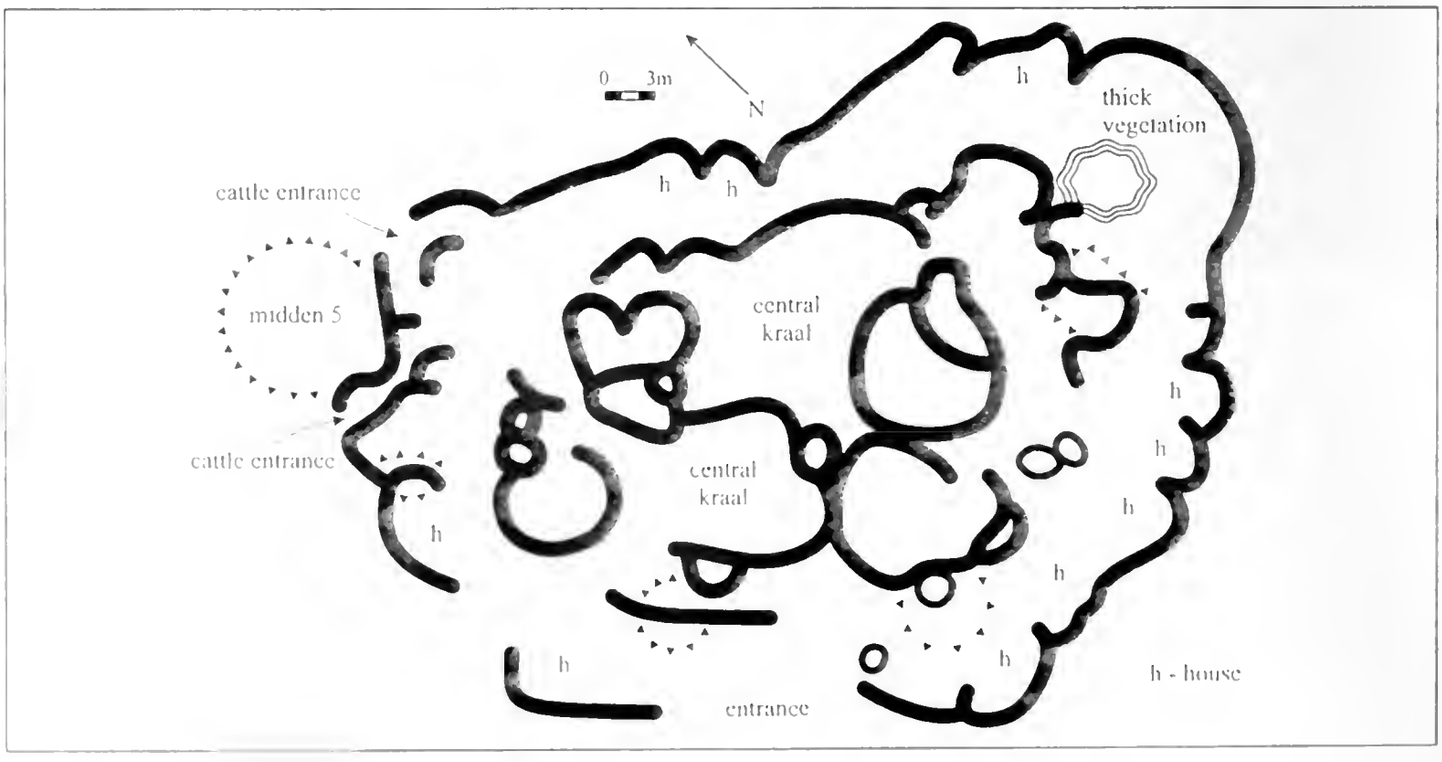
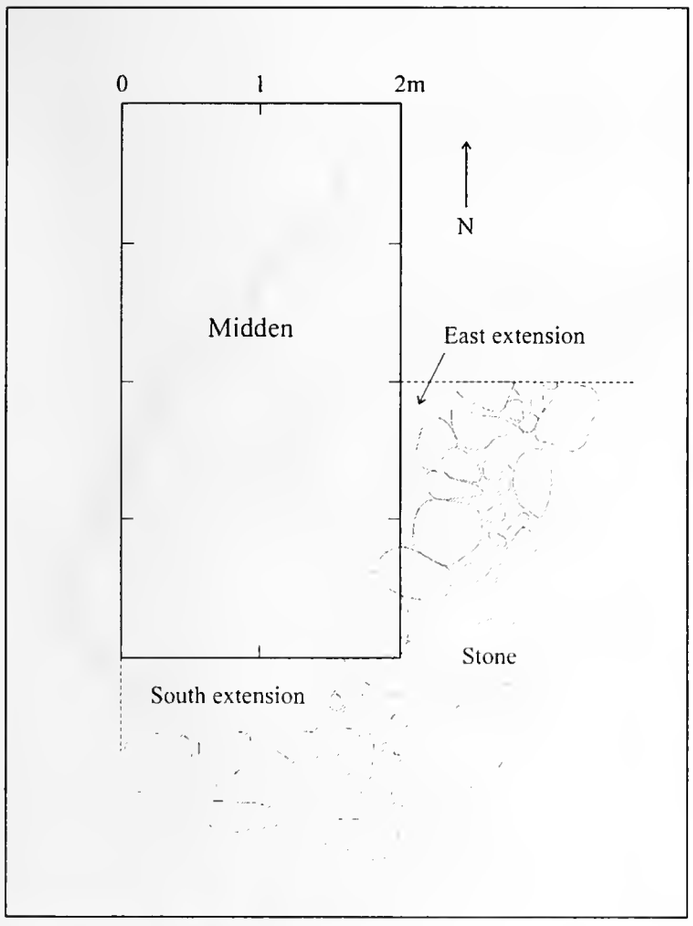


Fig. 6. Plan of Site 5.



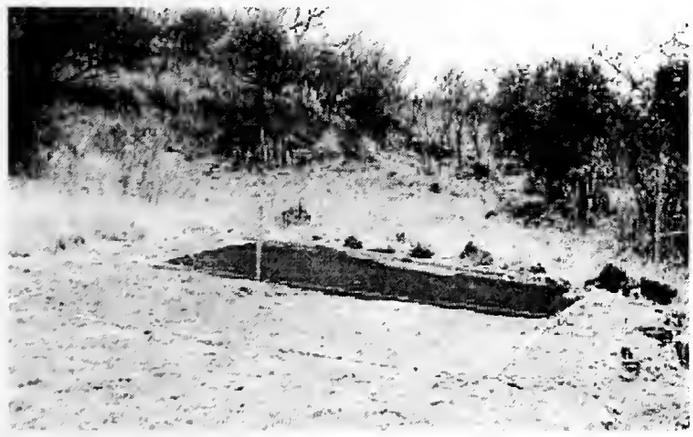


Fig. 7. (above) Plan of Midden 5. (below) Location of Midden 5.

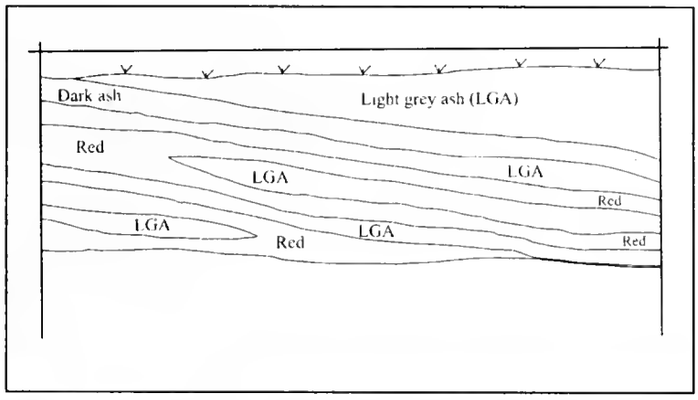


Fig. 8. (above) North section of Midden 5. (below) West face of Midden 5. Note red capping.

Table 4. Faunal remains from Midden 5.

	Identifiable	Unidentifiable	Modified	Burnt
Midden 5	308	748	47	1
East	12	15		
South	30	22	2	1

Table 5. Bone elements from Midden 5.

Cranial	
Teeth	45
Skull and Jaw	29
Postcranial	
Ribs	123
Spine	17
Limbs	111
Feet	15
Pelvis	25
Scapula	9
Modified	
Burnt	2
Cut/Shaped	49

SITE 6 (2628AC59D)

Site 6 (26.18.50,9S; 28.03.26,2E) stands below the saddle on the south side of the hill. It is also a large complex, some 150 m across, with a complex central cattle area and space for at least 16 households (Fig. 9). One household on the south side probably preserved the normal arrangement: a house would have stood in front of the stone arc, while a low wall to the north marks the front entrance, next to a kitchen. The plan documents a few other kitchens. Rectangular foundations (about 4 x 4 m) in the southwest corner mark the former location of a labourer's house.

The team chose a midden in front of an entrance on the south side (Fig. 10). Ash lay on the red/brown subsurface 50 cm below the surface, but most of the deposit consisted of grey brown soil. In the north end the soil colour was a lighter brown

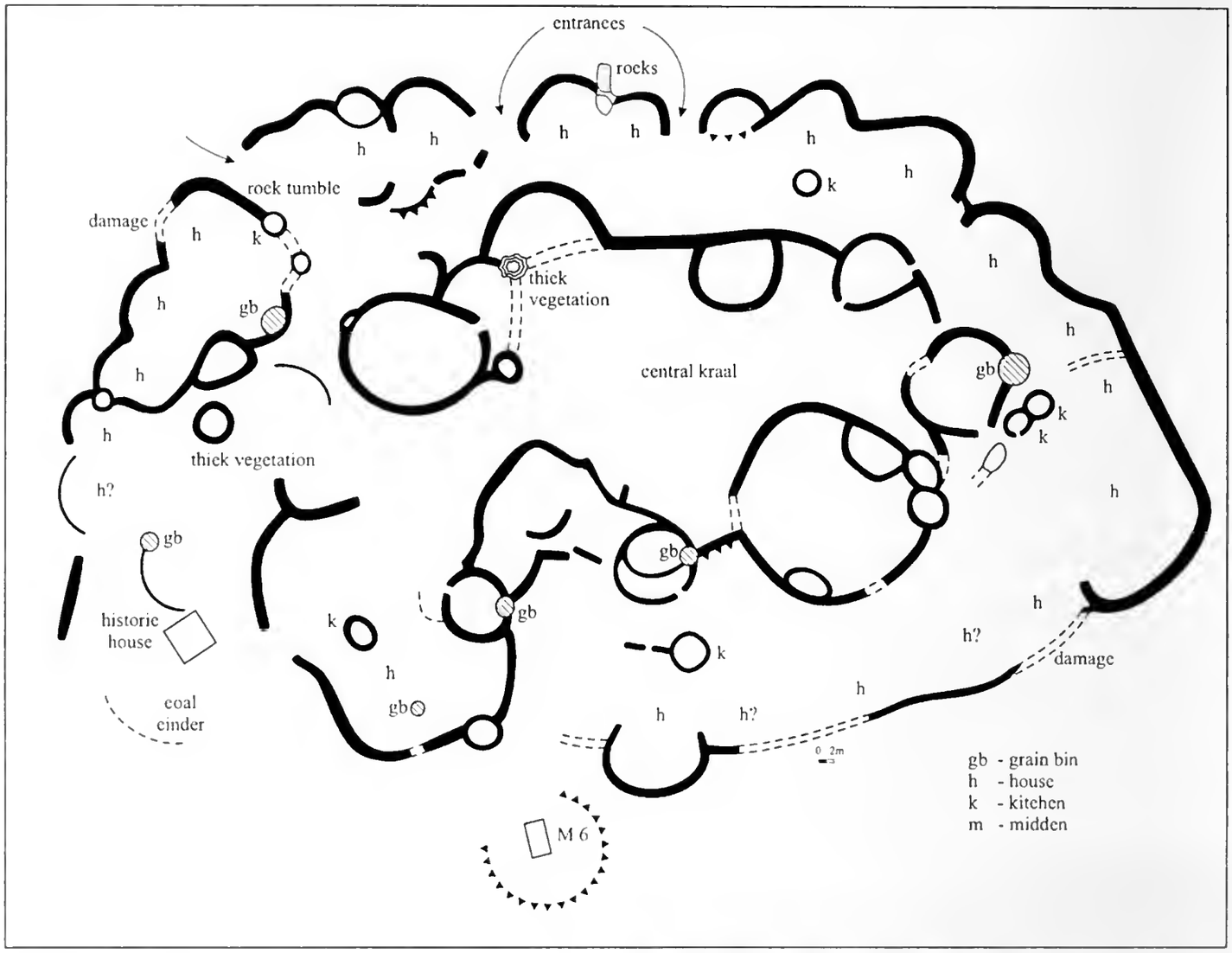


Fig. 9. Plan of Site 6.

Table 6. Ceramic remains from Midden 5.

	Rims decorated	Rims plain	Body decorated	Body plain	Soot	Other
Main trench	3	12	4 47 colour	170	51	1 small cup
East		1	6 colour	9	4	
South		3	11 colour	8	15	

in and around a large stone concentration (Fig. 11). The stones appear to have been dumped there in antiquity.

The deposit produced little bone, although there was the curled up skeleton of a dog in the south wall, 35 cm below surface (Table 7).

In contrast to bone, the deposit yielded a large ceramic sample (Table 8). The sample totals 1817 sherds, including 177 with textured decoration and 273 with colour. Comb-stamped designs show that the assemblage belongs to *Uitkomst* (Fig. 12).

Of further interest are 67 sherds associated with metal production. Glazed surfaces and tiny metallic prills show that these fragments were either used as skimmers or crucibles in copper production.

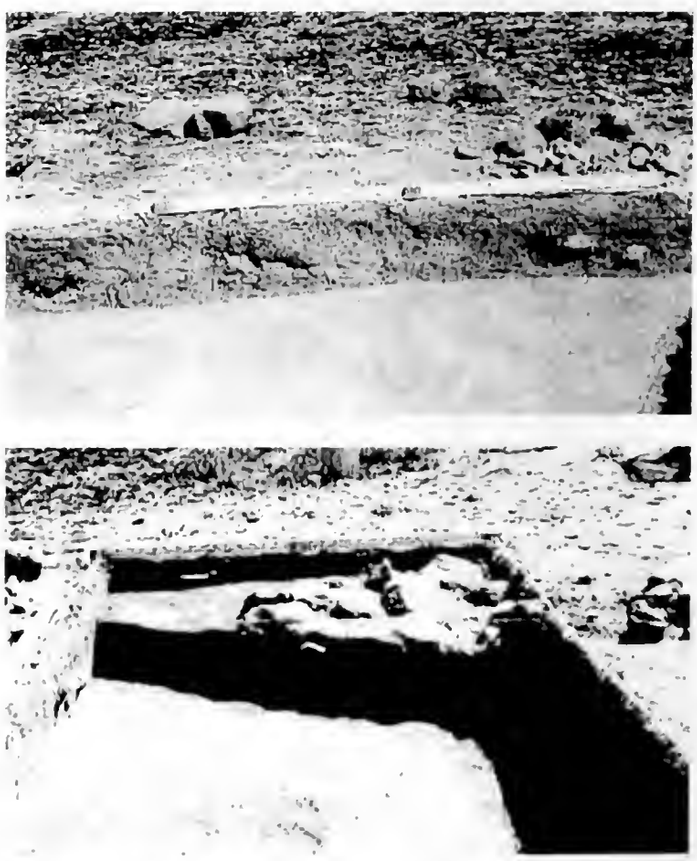


Fig. 10. West (above) and North faces (below) of Midden 6.

Table 7. Faunal remains from Midden 6.

	Identifiable	Unidentifiable	Teeth	Modified	Burnt	Shell	Other
Midden 6	15	20	5		5	1	Dog 115

Table 8. Ceramic remains from Midden 6.

	Rims	Rims	Body sherds	Body sherds	Soot	Metal working	Other
	decorated	plain	decorated	plain			
Midden 6	72	81	96	766	462 (2 rims 5 colour)	67	2 with mend holes

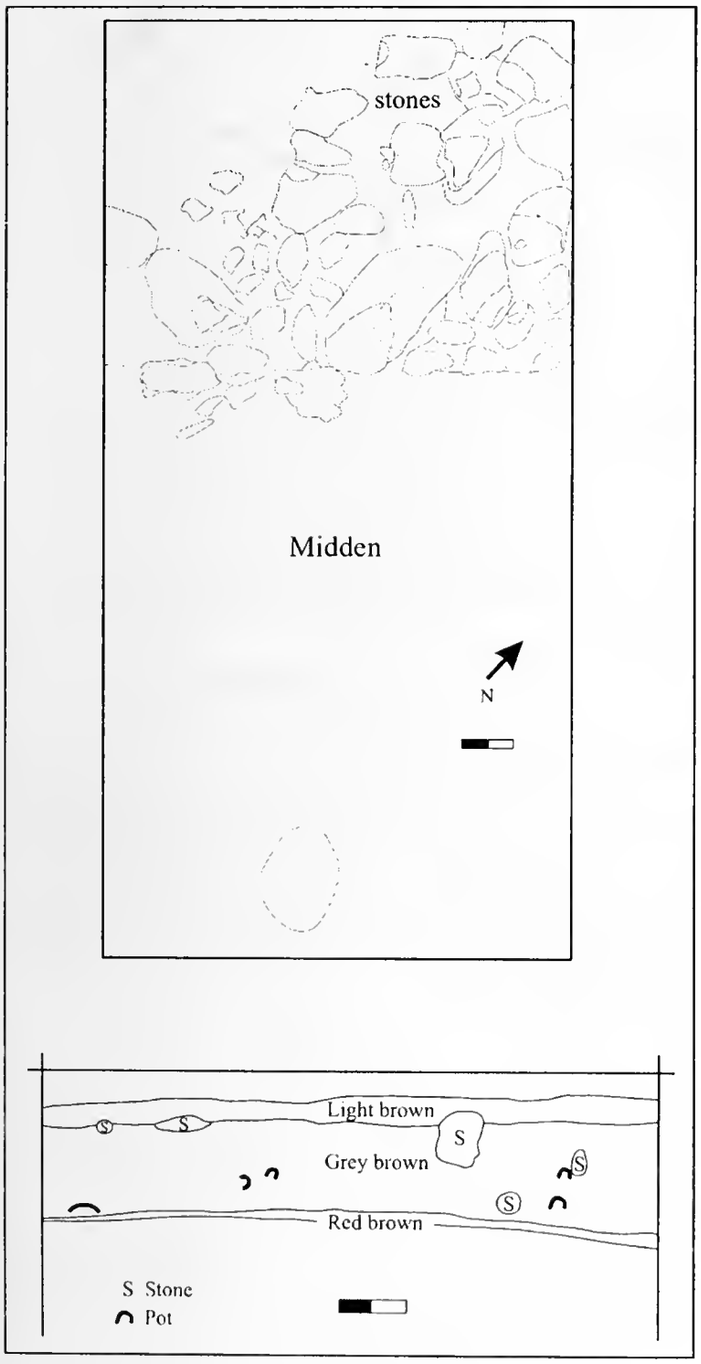


Fig. 11. Plan and north section of Midden 6.

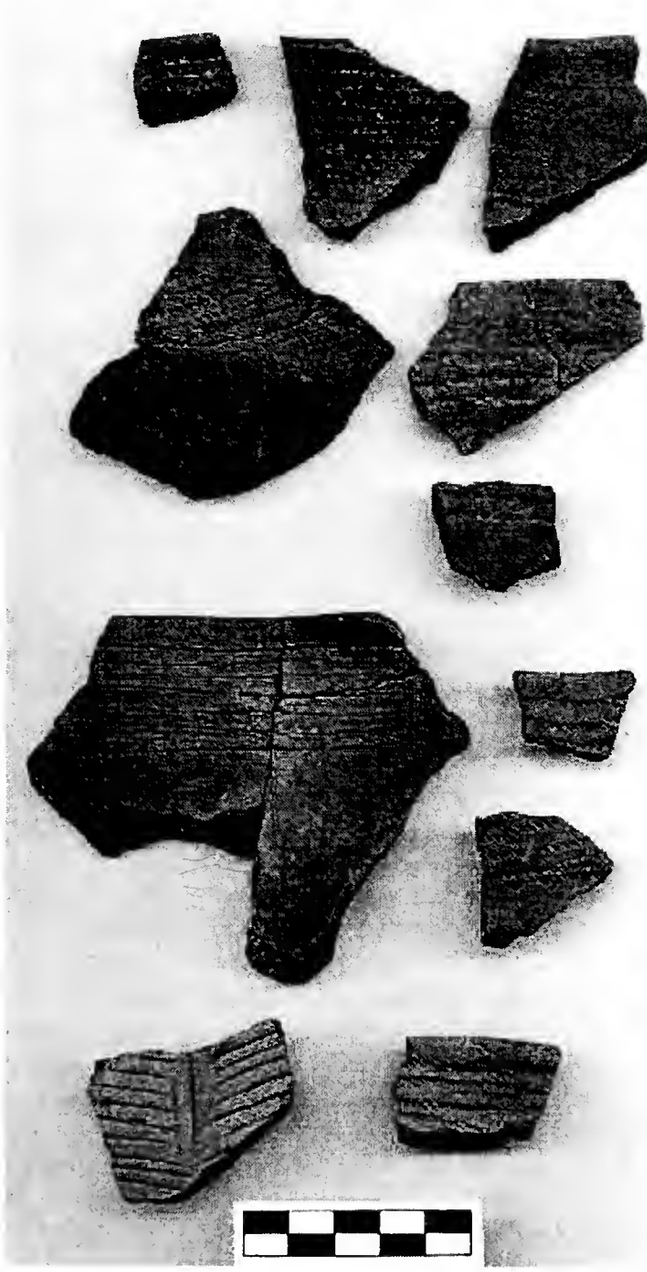


Fig. 11. Pottery from Midden 6.

SITE 9 (26228AC59F)

Site 9 (26.18.39.5S; 28.03.22,2E) stands in the east saddle of the kopje. Recent activity has damaged some stonewalls, but the plan is fairly clear (Fig. 13). The outer wall incorporates sheep/goat kraals, while cattle and calf kraals from an inner circle. Other small circles inside mark the kitchens of individual households. The spacing of low lapa walls at the front of some households to form a lane suggests that cattle were supposed to have entered from the west.

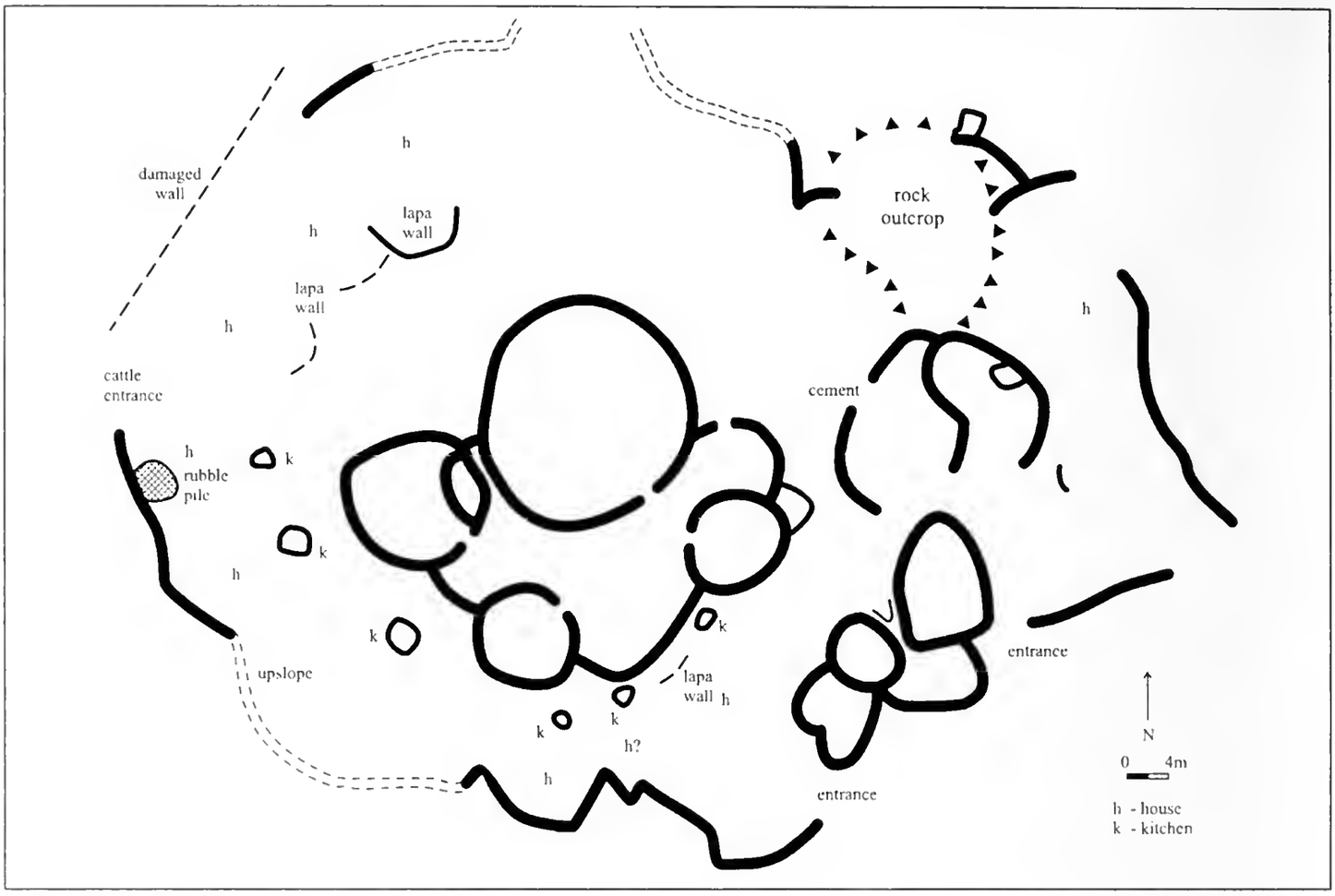


Fig. 13. Plan of Site 9.

SITE 10 (2628AC59G)

Site 10 (26.18.37,4S; 28.03.25,1E) stands about 100 m from Site 9, on the east end of the hill. Dumping and other activities have damaged the outer walls, but much remains (Fig. 14). The entrance on the north side, near a midden, leads to the central kraal, and then through a passage to a large space upslope that may have been the men's court. The household space further upslope may have belonged to the headman.

SITE 7 (2628AC59E)

Site 7 (26.18.47,3S; 28.03.28,2E) lies below the saddle east f Site 6. It is about 70 m across with two cattle areas, space for at least 9 households and a large sheep/goat kraal in the outer wall (Fig. 15). Entrances to the two central kraal areas appear to be located upslope at the back.

Midden 8 covered some 10 x 12 m between Site 7 and Site 8 (Fig.16). The deposit was severely disturbed by animal burrows and termites, and the ashy midden reworked in antiquity as well as more recently. The red/brown stony bedrock lay 20 to 40 cm below surface.

The remains of a stonewall stand on bedrock in the east corner of the trench. Vestiges of this wall appear on the surface to the east, and it appears to mark the outer wall of an earlier Type N settlement.

The bone sample was relatively small (Table 9). The few teeth represented cattle and sheep/goat.th eight decorated pieces, including two notched rims (Table 10). Comb-stamped decoration shows that the assemblage belongs to the *Uitkomst facies*.

TYPE Z SETTLEMENTS

SITE 8 (2628AC59E)

Site 8 (26.18.45,7S; 28.03.28,8E) appears to be attached to Site 7 on the east side (Fig. 17). It represents about one half of a normal homestead, with space for 3 or 4 households. The open spaces between these households show this attachment follows the Type Z pattern, rather than Klipriviersberg. The people here were therefore probably Southwestern Sotho-Tswana, rather than Fokeng.

DISCUSSION

The mitigation concentrated on midden excavations and settlement plans as records that can be used for future research. Even now, however, the results contribute to new insights.

First is the pottery. It was previously thought that *Ntsuanatsatsi* and *Uitkomst* were virtually the same; the separate names being the result of separate research in separate areas (Huffman 2002). In this previous view, *Ntsuanatsatsi* characterized Type N sites in the Free State while *Uitkomst* characterized Group 1 north of the Vaal. In both areas the style emphasizes comb-tamped arcades and appliqué bands (finger pinching). These key features are also characteristic of the pottery in Klipriviersberg. Type settlements, and so it appeared that the different stone-

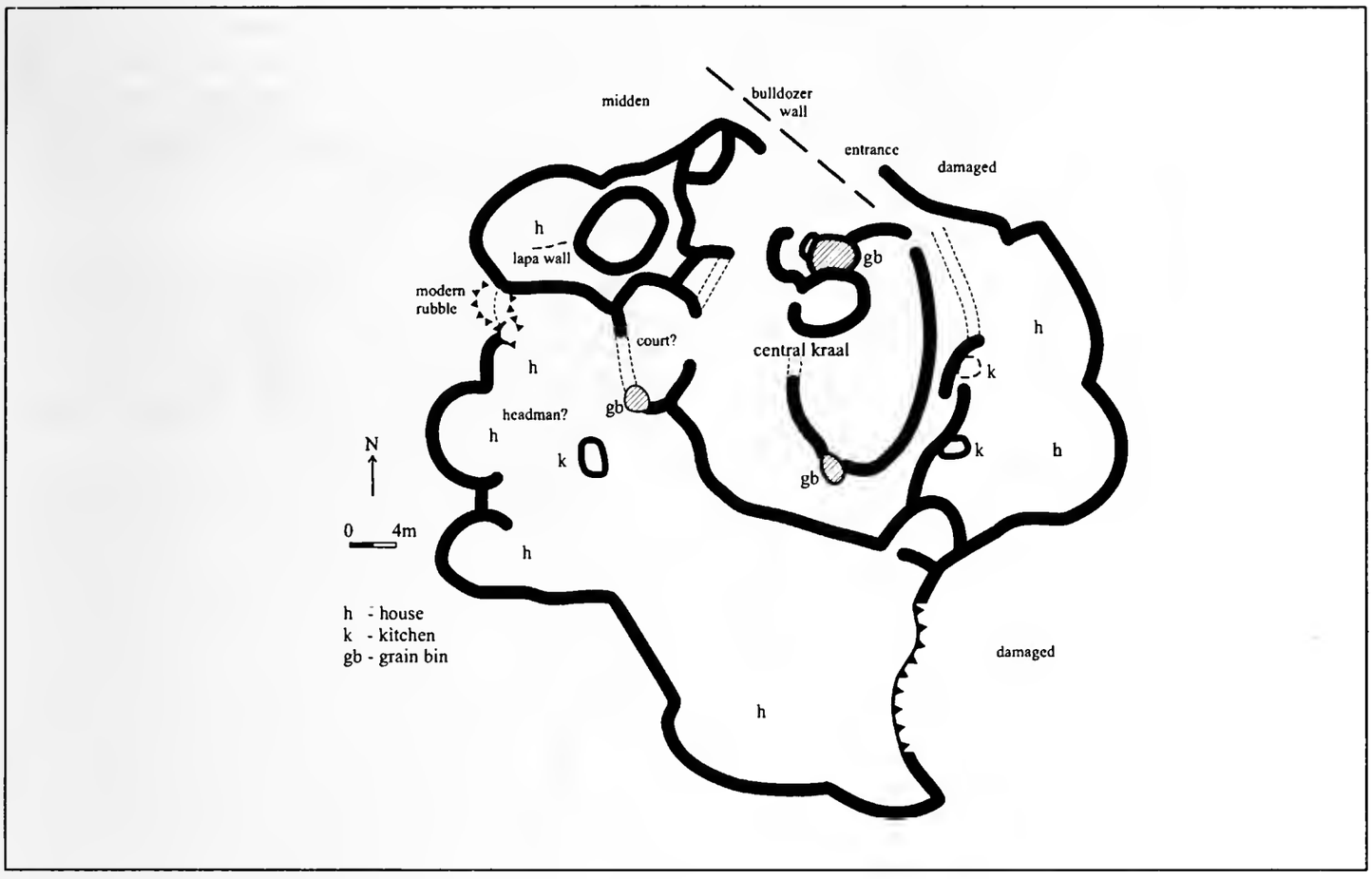


Fig. 14. Plan of Site 10.

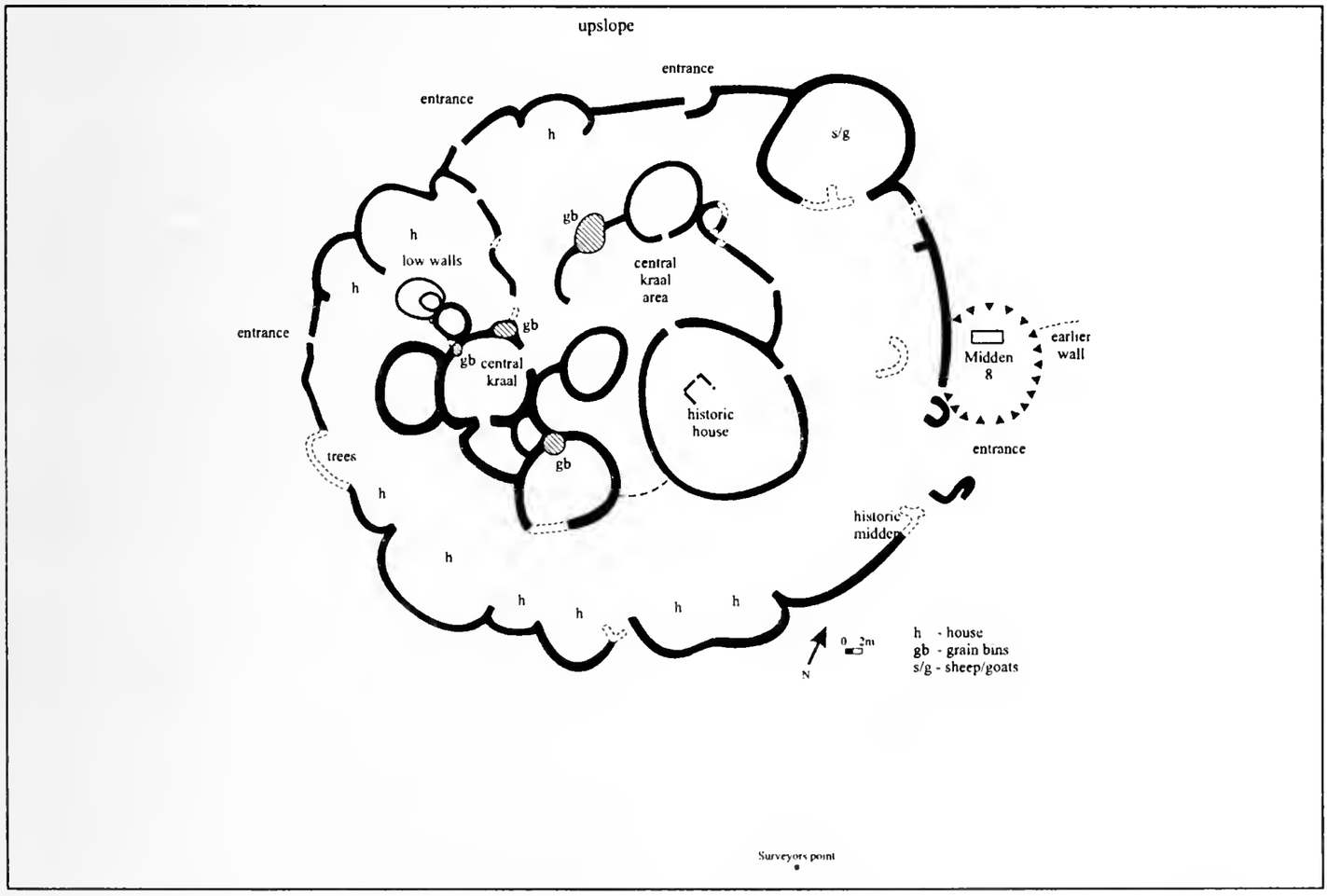


Fig. 15. Plan of Site 7 with location of Midden 8.

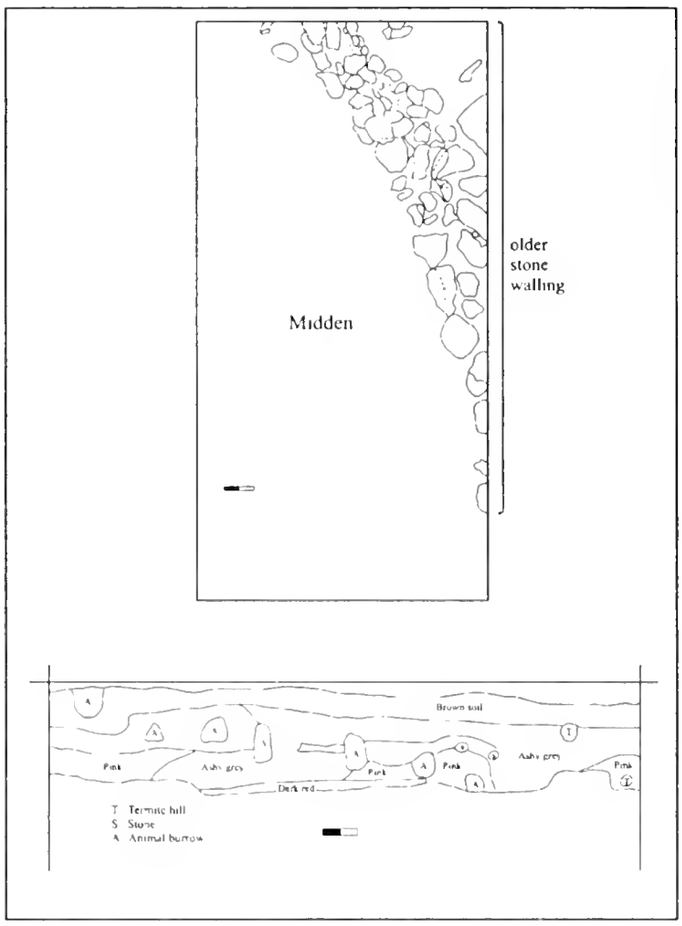


Fig. 16. Plan and Northwest section of Midden 8.

Table 9. Faunal remains from Midden 8.

	Identifiable	Unidentifiable	Teeth	Modified	Burnt	Shell
Midden 8	58	139	17	13	29	1

Table 10. Ceramic remains from Midden 8.

	Rims	Rims	Body sherds	Body sherds	Soot	Other
	decorated	plain	decorated	plain		
Midden 8	8	20	2	204	28 2 colour	2 1 dagga pipe

walled patterns provided a better chronological guide than the pottery.

The samples from the Aspen Hills excavations modify this interpretation. Certain types in several middens demonstrate a considerable degree of interaction. These types include necked vessels with a wide band of cord impressions in the neck, as well as necked vessels with incised arcades or parallel lines. These types are part of the *Olifantspoort facies*, associated with early Southwestern Sotho-Tswana centred in the Pretoria/ Rustenburg area. Similar evidence for interaction occurs at Tafelkop (Mason 1952) north of Johannesburg. Furthermore, bowls with parallel bands of stamping and colour show that Fokeng had adapted *Olifantspoort* types to their own style. This adaptation shows that the interaction preceded the development of the Klipriviersberg Type of walling. The interaction itself probably included the exchange of wives to establish political alliances.

Other new research shows that *Ntsuanatsatsi* pottery is part of the **Blackburn Branch** centred in KwaZulu-Natal (Huffman 2007). The Fokeng were thus originally Nguni. This is an entirely new assignment and differs substantially from earlier archaeological interpretations. Bryant (1929:356-357), on the other hand, thought the Fokeng were originally MboNguni from northern KwaZulu-Natal.

We now know that *Ntsuanatsatsi* pottery derives from the *Blackburn facies* (Table 11, Fig. 18) (Maggs 1976:298-301 earlier considered a related possibility). Types with stamped lines in the neck and stamped chevrons on the shoulder occur in northern KwaZulu-Natal prior to their appearance in *Ntsuanatsatsi*. Indeed, all stylistic types in *Ntsuanatsatsi* have equivalents in *Blackburn*; but the earlier phase has more variation. Current work around Richards Bay should clarify the variability of *Blackburn* and its contribution to *Ntsuanatsatsi*.

At this point, one should note that *Ntsuanatsatsi*, and Fokeng, represent the first known Nguni movement out of KwaZulu-Natal. This first movement predates oral traditions in KwaZulu-Natal, but later traditions in the Free State recognize Fokeng as the first arrivals (Legassick 1969).

Some (*e.g.* Boeyens 2003; Vogel & Fuls 1999) have questioned the early dates (Maggs 1976) from the Type N sites OU 1 (Ntsuanatsatsi itself) and OU 2 because they predate Sotho-Tswana settlements with stonewalling north of the Vaal. The reassignment of *Ntsuanatsatsi* pottery to the **Blackburn Branch** negates this objection.

The early movement north across the Vaal is also related to the question of dating. In addition to Klipriviersberg sites, *Ntsuanatsatsi/Uitkomst* pottery occurs stratigraphically under the main stonewalls at Olifantspoort (Mason 1986:366) and Mason's (1986: 671) Kaditshwene (actually Mmakgame) south of Zeerust. Thus, the 15-17th centuries dates at these sites do not apply to the large Tswana settlements visible on the surface. These dates in turn support the early dates from OU 1 and OU 2. Although more sites need dating, there is little reason to doubt the 15th to 17th century results.

Significantly, the ceramic and stonewalled sequences are in parallel: *Ntsuanatsatsi* pottery correlates with Type N in the Free State and Group I in Gauteng (both should be called Type N), while *Uitkomst* is limited to Group III, that is, the Klipriviersberg Type.

When Fokeng people spread across the Vaal in the 15th to 16th centuries, they introduced stonewalling to Western and Southwestern Sotho-Tswana, who developed Molokwane and Type Z patterns, respectively. As a result of this interaction, Fokeng altered their own pattern (Type N) to incorporate new features. Arcs in the outer wall to mark individual households are one obvious feature. At Aspen Hills, back and side entrances for cattle contrast with the front, down slope entrances at Molokwane settlements, such as Boschhoek in the nearby Suikerbosrand (Huffman 1986). This orientation may have been one feature that did not change.

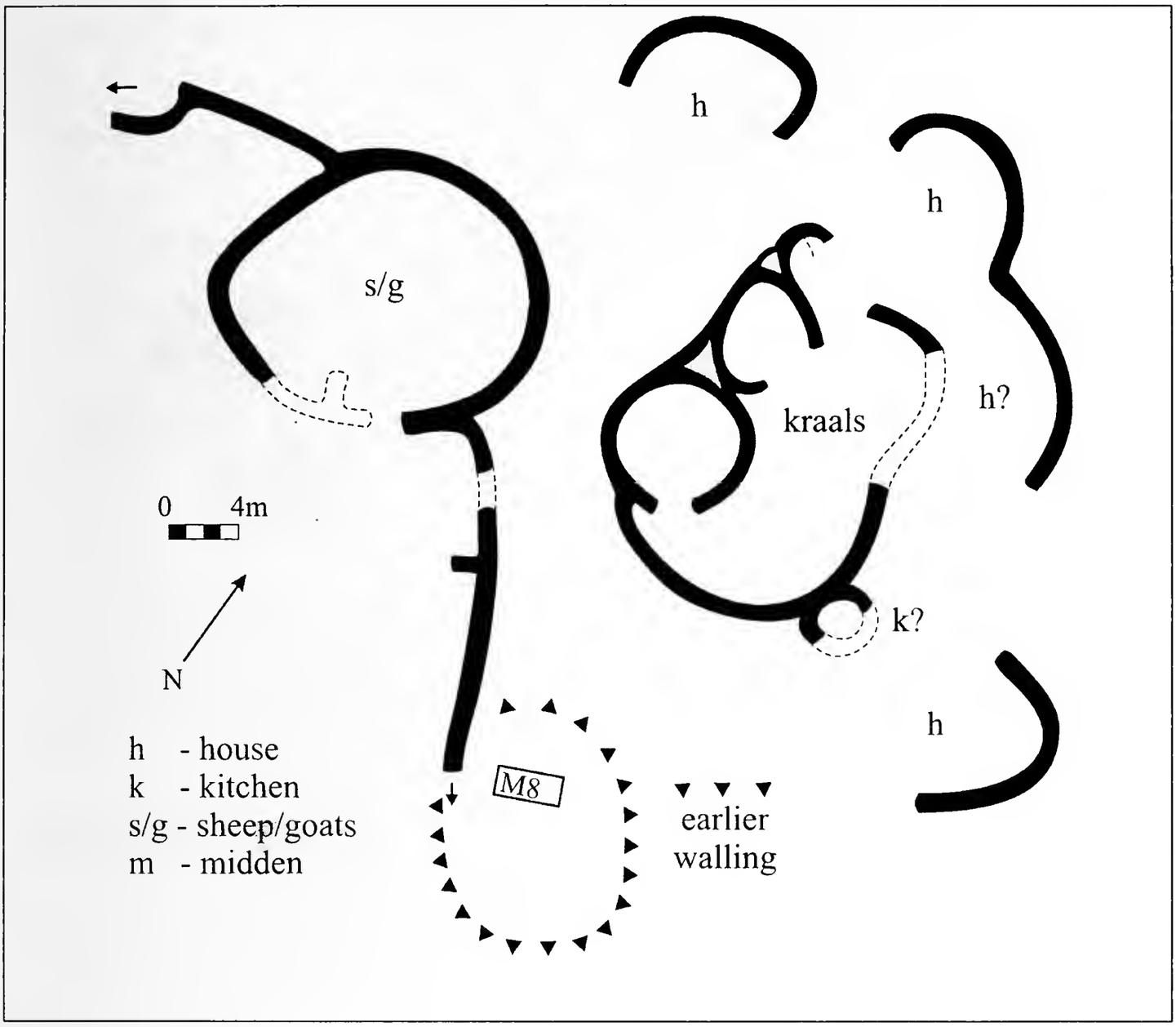


Fig. 17. Plan of Site 8 and location of Midden 8.

Sheep/goat kraals also remained attached to the outer wall. Today, this location is a regular feature of Nguni homesteads in KwaZulu-Natal because of a dichotomy between men & cattle and women & small stock. We suspect that this location in Type N and Klipriviersberg settlements is further evidence for the Nguni origins of the Fokeng cluster.

The unusual capping of ash layers in Midden 5 may be another important feature. Ash capping is on record in Ndebele sites in Mpumalanga (Schoeman 1998) and Ndebele sites in Limpopo (Huffman & Steel 1996), as well as the Khami-period capital at Danangombe in Zimbabwe (MacIver 1906). Nguni societies in KwaZulu-Natal dump their ash in front, in public view, to prevent its use by witches (Raum 1973). Likewise, the midden at Danangombe contains refuse from the sacred leader's private quarters, and it too needed special protection. At Aspen Hills it is unclear who lived in Site 5, or what special activities took place there, but the capping also probably served to protect the ash. Vestiges of capping in Midden 4 indicate that this feature may have been common. Widespread capping would be further support for the Nguni origin of Fokeng people The other point of interest derived from the excavations is the evidence for copper working in Midden 6. Copper working, as well as iron, was a feature of farming communities throug-hout the Iron Age over a wide area of southern Africa. The only major restriction was the availability of ore. In this regard, copper deposits sometimes occur in the dolomites of the Transvaal Group (Coetzee 1976), which begin in the Klip River Valley to the south. So there may have been small deposits in the neighbourhood of Aspen Hills.

At other sites, such as Marothodi near Rustenburg (Anderson 2005), copper working took place outside the settlement, just behind the residential zone. The similar location of a small secondary furnace at 2426CD15, a pre-walled Sotho-Tswana settlement in the Madikwe Game Reserve (Hall 2000), indicates that the pattern was widespread. The back location is related to the important dichotomy between men & iron and women & copper. Presumably this dichotomy and location was also true for Site 6.

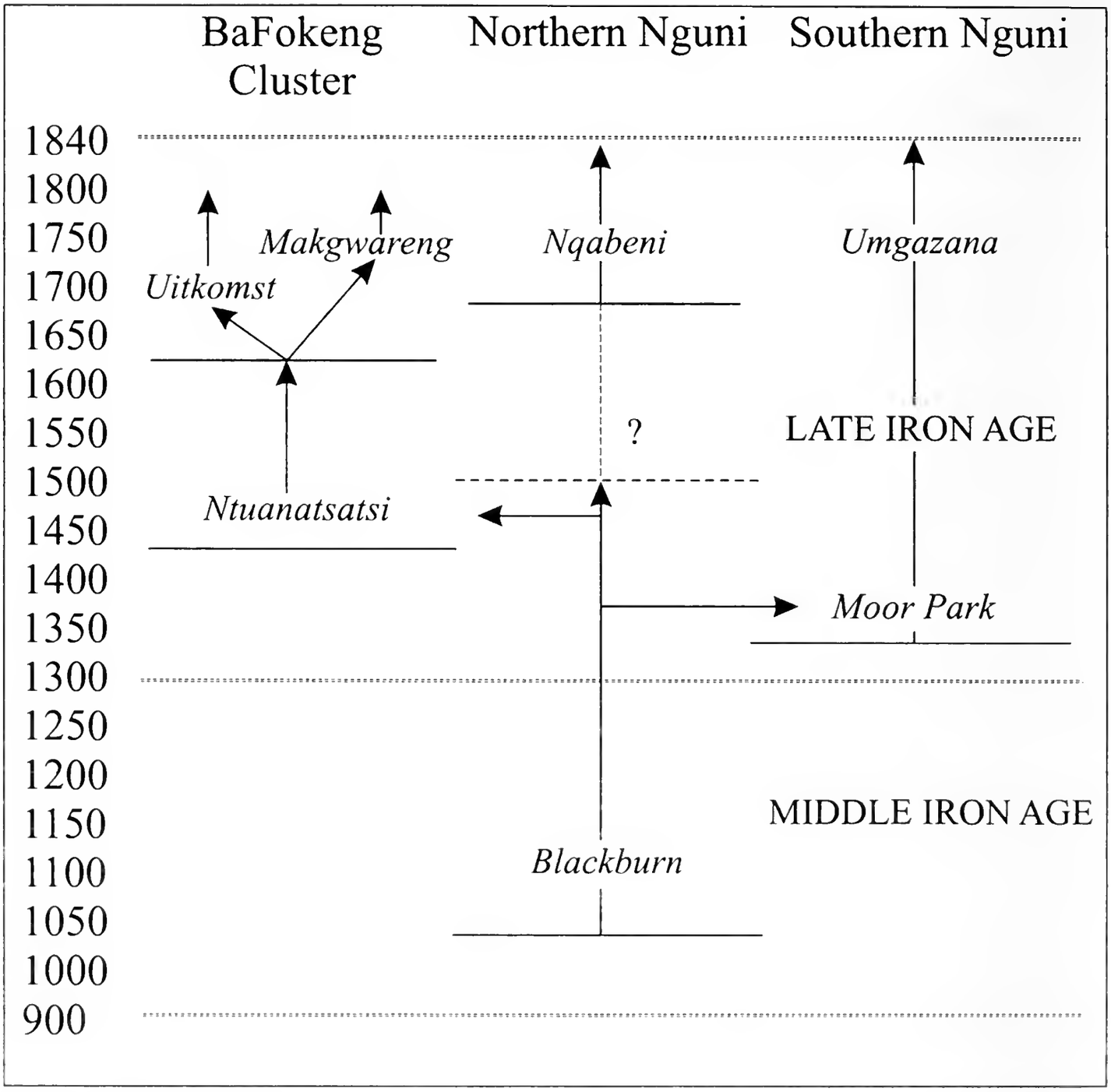


Table 11. Blackburn sequence.

Klipriviersberg Type walling dates to the *difaqane/mfecane*, the troubled period that started in the second half of the18th century. Dating after AD 1750, many Type Z and Molokwane settlements, such as Kaditshwene, a Hurutshe capital (Boeyens1998, 2000), Molokwane, a Kwena capital (Pistorius 1992) and Platberg, a Rolong settlement (Mason 1986), were sited on hilltops and aggregated for defensive purposes. Indeed, most Sotho-Tswana aggregated into larger settlements for mutual protection at this time. This is why so many Fokeng settlements cluster on and around Aspen Hills, and this is probably why most settlements housed at least two extended families.

This troubled period caused disjunctions throughout southern Africa. Some groups realigned their political affiliations, some formed new identities, while others disappeared altogether. Presumably, the Type Z settlement attached to Site 7 represents a family of Southwestern Sotho-Tswana who joined the Fokeng because they had become dispossessed. Presumably again, they joined Fokeng because of their long history of interaction. Our final point also concerns cultural interaction. As is well known, Mzilikazi caused considerable damage in the Trans-Vaal during the early 19th century. In the nearby Suikerbosrand (Huffman 1986), for example, burnt houses in Molokwane settlements (Western Sotho-Tswana) contain complete pots, as well as metal and ivory objects, because they were destroyed during the troubled period. Fokeng settlements in the Klipriviersberg, in contrast, appear to have been abandoned without a struggle. Later, in the Rustenburg area, Mzilikazi and Fokeng lived together in apparent harmony. Perhaps these cordial relations were due in part to the Nguni origins of Fokeng.

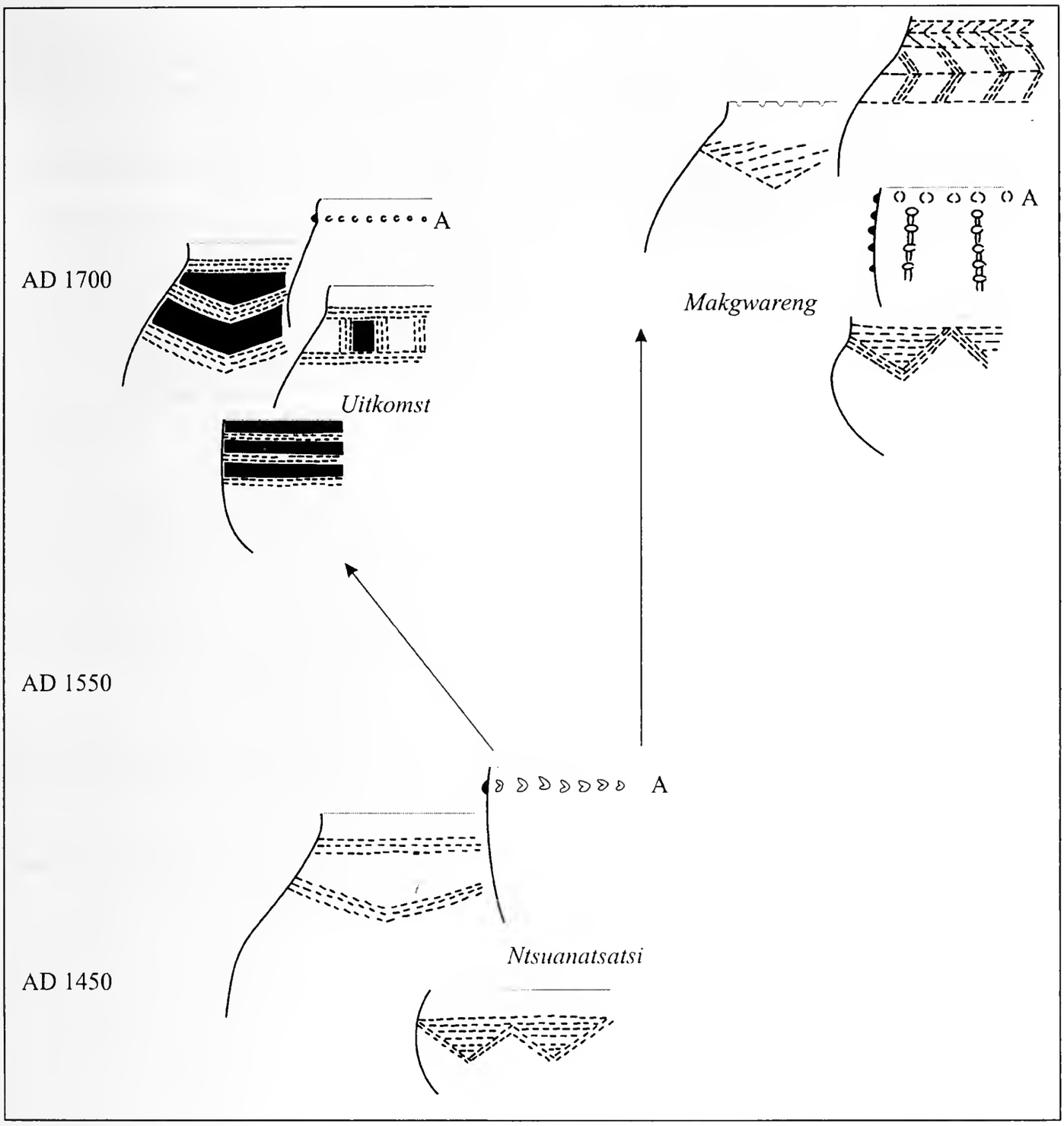


Fig. 18. ***Ntsuanatsatsi*** **sequence of Fokeng cluster.**

ACKNOWLEDGEMENTS

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ARCHAEOLOGICAL RESEARCH ALONG THE SOUTH-EASTERN CAPE COAST PART 2, CAVES AND SHELTERS: KABELJOUS RIVER SHELTER 1 AND ASSOCIATED STONE TOOL INDUSTRIES

JOHAN BINNEMAN

Department of Archaeology, Albany Museum, Somerset Street, Grahamstown, 6139

email: J.Binneman@ru.ac.za

ABSTRACT

Research along the Cape St Francis coast during the early 1980s identified two types of pre-pottery open-air shell middens from the associated stone tool assemblages. The first type was those with a microlithic silcrete stone tool assemblage and the second type those with macrolithic flaked cobble quartzite stone tools. Initially, the quartzite assemblage was referred to informally as the Kabeljous Industry because the relationship between the two different assemblages was not clear. Excavations at Kabeljous Shelter 1 during 1984 indicated that a Kabeljous Industry 'replaced' the Wilton microlithic Industry at the site at ca 2500 BP. This paper discusses the excavations at Kabeljous Shelter 1 and the associated stone tool industries of the Cape St Francis coastal region.

INTRODUCTION

Research along the Cape St Francis coast between 1981 and 1984, identified two types of open-air shell middens, namely, those with a microlithic silcrete stone tool assemblage similar to the Wilton Industry (but lacking segments) found in the adjacent Cape Mountains and a macrolithic flaked cobble quartzite assemblage with large backed flakes as the most prominent 'formal' stone tools type (Binneman 1985, 1996, 2001, 2005). The latter stone tool assemblages was informally labelled and referred to as the Kabeljous Industry - it was decided to name the quartzite stone tool assemblage after the shelter with the same name as a tribute to the contribution Dr John Hewitt made towards archaeological research in the Eastern Cape (Binneman 1996). Rudner (1968:536) referred to these stone tools as "A Late Mossel Bay industry (?) with giant crescents". However, a series of radiocarbon dates from middens associated with "giant crescents" indicated that they date from the middle to late Holocene and were contemporary with the microlithic Wilton Industry of the region (Binneman 2005:51, table 2). This came as a slight surprise because the association between the microlithic Wilton Industry and the macrolithic quartzite industry was unclear at this early stage of the research project.

After most of the open-air shell midden data was processed, the second phase of the coastal project, namely, the cave and shelter investigation was initiated during 1984. The aim with this phase was not only to complement the open-air phase of the coastal research in terms of larger samples of well-preserved cultural material and a time sequence, but also to contrast the data with sites in the adjacent Cape Mountains.

This paper discusses the investigation of Kabeljous River Shelter and the associated stone tool assemblages found at the site. It is suggested that the cobble quartzite assemblages found along the Eastern Cape coast be recognised as a formal Late Holocene Later Stone Age stone tool industry. The research methodology which were applied during the south-eastern Cape project and the results from the open-air shell middens along the Cape St Francis coast were discussed in two previous publications (Binneman 2001, 2005), and should be consulted for the terminology used in this publication.

BACKGROUND

The archaeological work conducted during the 1920s by two amateur archaeologists, J. Hewitt and F. FitzSimons (both Directors of major Eastern Cape Museums), in the Tsitsikamma region, provided the backdrop for the formulation (and testing) of models for the Cape St Francis research project. A discussion of their archaeological research in the region will be published in the near future.

In 1925 Hewitt excavated a trench along most of the back wall of Kabeljous River Shelter 1 and an area estimated to be about four square metres in the nearby Kabeljous River Shelter 2. Kabeljous River Shelter 1 was re-excavated by the author in 1984.

There is little information on Hewitt's excavations at the Kabeljous Shelters and only a few artefacts were kept. Hewitt was surprised that the deposits were "comparatively shallow: the greatest depth found in the floor was only five feet" (approximately 1.5 m, but he does not mention at which shelter), and reported that the 'pigmy' implements which he observed at Wilton Large Rock Shelter were absent from the Kabeljous River Shelters. According to Hewitt there was no "stratification in the

material" and those from the lower levels were similar to those from the surface. All the implements, with a few exceptions, were manufactured from sandstone. The exceptions were a few quartz flakes from the sub-surface and lower levels, which were similar to ones he found at Wilton. Hewitt attributed the "scarcity of true pygmy implements", to the fact that there is a shortage of suitable fine-grained raw materials such as surface-quartzite (silcrete) and lydianite (hornfels) in the area.

It is unclear why Hewitt did not find 'pigmy' implements in the excavation at the Kabeljous Shelters, not even at a depth of five feet. It is possible that his trench along the rear wall in Shelter I did not reach bedrock and therefore never reached the Wilton layers. There is no information on the excavation in Shelter 2 and one can only speculate that he either did not excavate deep enough to encountered the 'pigmy' implements, or as in the case of Klasies River Cave 1 and 5 (rear excavation), they were also absent (Binneman 1996, 1997).

Hewitt also reported on the recovery of twelve skeletons from the shelters, but no information is available on burial position or at what depth they were found. One of the skeletons, an adult female, yielded a considerable quantity of ostrich eggshell beads. According to Hewitt her skull and two others skulls were "different from those of typical Strandloopers" and resembled those from Spitzkop Cave near Grahamstown, while only one skull resembled that of a typical 'Strandlooper'.

It is clear that Hewitt experienced difficulty in explaining the stone tool assemblage at the Kabeljous River Shelters. On the one hand he was not sure if the material could be assigned to a "single culture", and on the other he speculated that if "two or more cultures" were responsible for the material, then "they must have been practically contemporaneous". Although Hewitt (1925:452) was more concerned with explaining the cultural material than with the human remains, he was convinced that, "The skeletal discoveries in the coastal rock-shelters offer a more reliable clue to the identity of the implement makers".

According to Hewitt, all the skulls from this region displayed distinct Strandlooper characteristics, and on this evidence two types could be identified. The first type was of 'mixed origin' (coastal skulls) and larger than the smaller 'purer stock' type skulls.

From this and other information and drawing on his vast experience, knowledge and observations of human skeletal remains from the Eastern Cape, Hewitt formulated a "working hypothesis": On the basis of the size of the skulls, Hewitt speculated that the large skulls were those of 'Hottentots' (Khoi), who were also responsible for the large quartzite stone artefacts and the smaller ones that of 'Bushmen', who were responsible for the 'pigmy' culture of the inland sites. "But it should be noted that the difference between the two classes of implements is chiefly in the matter of size".

FitzSimons (1921, 1923, 1926), probably encouraged by the discovery of the so-called 'Boskop Man' (Haughton 1917; Dart 1923) near Potchefstroom in 1913, conducted extensive work along the Tsitsikamma coast between Knysna and Cape St Francis. He paid little attention to the cultural material in general, and directed his energy and interest to finding skeletal remains.

The exact number of sites excavated by FitzSimons is not known and all of the sites have not yet been located (Schauder 1963; Turner 1970; Robinson 1977). It is also not clear how many human skeletons were exhumed by FitzSimons and his teams, but he reported 51 from Witchers Cave (FitzSimons 1926:814). Nevertheless, he recognised that the human remains from different depths of his excavations were also different in stature. This was confirmed by a small number of the remains sent to the Department of Anatomy at the University of the Witwatersrand for analysis (Dart 1923; Laing 1924; Gear, H.S. 1925, 1926; Laing & Gear, H.S. 1929; Wells & Gear, J.H. 1931).

Both Laing and H.S. Gear agreed with Dart's (1923) view that the remains from the lower levels at Whitcher's Cave resembled the "primitive" features of the Boskop type. The remains were "heavier" and more "rugged" than those from the upper levels, which were regarded as a mix between the Boskop type and Bushman (San). Laing (1924:537) regarded, "The Strandlooper as a fusion between pure Bushman and Boskop types".

Wells and J.H. Gear (1931) on the other hand, while agreeing that the lower remains showed affinities with "Bush and Boskopoid", added that there were also Mongoloid elements present. Furthermore, the later remains apart from Bush, Boskopoid, and Mongoloid, also displayed Australoid and 'Bantu' elements. According to Wells and Gear the Bantu elements were possibly introduced by 'Hottentots' who had contact with them. However, they added that "there is no positive archaeological evidence of the presence of Hottentots in Whitchers Cave". The Mongoloid influence came via Chinese contact with the East Africa and group termed "Chinese Hottentots" who lived in the Kei River Valley.

Notwithstanding all these different interpretations and theories, FitzSimons (1926:816) formulated his own, somewhat 'romantic' hypothesis:

> Here then, far up in the Qutinequa range of mountains was a horde of primitive folk, who lived until comparatively recent times in a manner not different from the earliest Cave Dwellers of Europe. There are reasons for believing that they were the survivors of the ancient and original Cave Dwellers of Europe who, when pressed south by hordes of stronger and better equipped men, moved onward, keeping always to the coast because their sole means of subsistence was obtained from the sea, and eventually reaching South Africa. There are also reasons for believing that they found the caves and rock shelters inhabited by still more primitive, but taller, bigger-boned and thick skulled people who did not accumulate midden material in their rocky homes nor buried their dead there. These immigrant hordes of coast-dwelling Bushmen were now using bows and poisoned arrows, and the original occupants of the rock shelters were only armed with crude stone weapons. The discovery of the fragmentary remains of a massive-boned race, akin to the Boskop man, in some of the rock shelters at Zitzikama on the lower levels of the midden floors, opens up a wide field for speculation. In Knysna and its neighbourhood palaeoliths of large size are so abundant that we must, perforce acknowledge that a race of big and brawny men once existed there. These were possibly individuals of the race who fashioned the large

stone implements, which are scattered so profusely over the country and especially on the river terraces. The inland Bushmen, pressed south by a stronger and superior people, drove these primitive and poorly armed cave men before them, and the remnant found sanctuary in the forests of Knysna and Zitzitkama.. Here a few hordes survived, and fed on shell fish and the animal and vegetable products of the forests.

The coastal Bushmen on their arrival, finding people already in possession of some of the rock shelters, overcome them by force, and the survivors subsequently live peaceably with their conquerors, or perhaps, they simply blended peacefully with the newcomers, and, being few in numbers, were soon absorbed, the only evidence of the blend being a slight increase in stature, and variations in the size and shape of the skulls of the coastal Bushmen.

All the remains of this big-boned people were found in the lower midden levels at varying distances from the rock floor. On the same levels, however, I found the remains of coastal Bushmen. This would seem to give colour to the hypothesis that the bigger people were the original occupants, and that at least some of them continued to live on in the shelters with the newcomers. By the time the last of the pure-bred original people died, an appreciable layer of midden material would have accumulated on the floor, and in this they were buried. This hypothesis would at least account for the bones of the bigger Boskopoid people being found side by side with those of the coast Bushmen. Ultimately caught between oncoming Kafirs from the eastern side of Africa, and the Hottentots on the west, these human survivals of the distant past vanished from the earth, leaving abundant evidence of the nature of the life they led.

Unfortunately, unlike Hewitt, FitzSimons never paid much attention to the stone tools assemblages from the sites which he excavated, and we therefore have no knowledge of the stone tool sequences and if they were similar to that which Hewitt discovered at the Kabeljous River Shelters. Whatever the case, both researchers were of the opinion that there were different populations (distinguished on the size of the human skeletal remains) in the region who were responsible for different cultural remains.

Recent research (Pfeiffer & Sealy 2006; Stynder 2006) has confirmed the observations made by FitzSimons and Hewitt regarding different skull and body sizes of Holocene human remains in the Tsitsikamma region. With the assistance of modern technology such as radiocarbon dating these researchers have established that there was a brief decline in stature and skull size between 4000 and 3000 BP, but an increased again after this date, accelerated after ca. 2000 BP. Although it is not clear what caused this phenomenon, Pfeiffer and Sealy (2006:8) suggested that the reason may be "diet rather than disease, with chronic and/or cyclical insufficiency of nutrients being most probable". This argument is supported by Stynder (2006).

By 1985 the research on the open-air shell middens along the Cape St Francis coast indicated that there were two distinctive midden types prior to 1800 BP, namely those dominated by Wilton type microlithic stone tools and those dominated by a large quartzite cobble stone tool industry (Binneman 1985, 1996). The analysis of the excavations at Kabeljous Shelter 1 and Klasies River Caves 1 and 5 was well underway when Inskeep (1987) published his research from Nelson's Bay Cave. The results indicated that after 3300 BP the microlithic stone tool industry was replaced by a heavy duty quartzite tool industry at the site.

KABELJOUS RIVER SHELTER 1

The shelters (KRS1 & 2) are located approximately 4 km from the Kabeljous River Mouth (Fig. 1), some 80 m above sea level and 20 m above the valley floor. The shelters are cut into conglomerates and were probably created during the high sea level stands of the Plio-Pleistocene. Terraces at 100 m and 60 m are prominent in the area (Butzer & Helgren 1972). Kabeljous River Shelter 1 faces southwest and is approximately 30 m wide along the drip line, between 5 m and 6 m deep and the roof some 6 m high at the entrance (Fig. 2). The entrance of the shelter is well concealed by trees and dense growth of creepers.

EXCAVATION, STRATIGRAPHY AND DATING

Apart from the trenches dug by Hewitt, large erosion hollows are also present along the drip line, exposing cultural and food remains. Two square metres were excavated in Kabeljous River Shelter 1 to bedrock at a depth of 1,20 m. A few potsherds were found on the surface, but none were recovered during the excavation.

A total of 23 layers and other features were identified during the excavations (Fig. 3). These were divided into 13 units, which are described here, from the surface to the bottom.

Unit OLA (oxidized and leached ash)

The top unit consists of a series of interlocking soft and hard ash of different colours. At the front of the excavation soft grey ash (SGA) with loosely packed shells are overlain by hard red brown, grey and pink ash (RBA). These horizons may represent redistributed ash stained by iron humates. This feature contains mainly fragments of burned shell and bone. The remains of a small round fire place (RBA/AF) were found on the edge of RBA, extending into the unexcavated adjoining square.

At the back of the excavation, a thick hard white ash (HWA) lies on top of RBA. This large ash feature probably represents the remains of a series of fires, hardened by peculating water. The bottom of HWA consists of an under burn of soft, powdery, orange, pink and red brown soil.

Unit DSM (*Donax serra* midden)

This unit consists of a relatively thick layer of loosely packed shell, mostly *D. serra* in a matrix of coarse grained ashy soil.

Unit PSM (*Perna perna* shell midden)

In the front portion of the excavation this unit is composed of a loosely packed *P. perna* dominated midden which graded

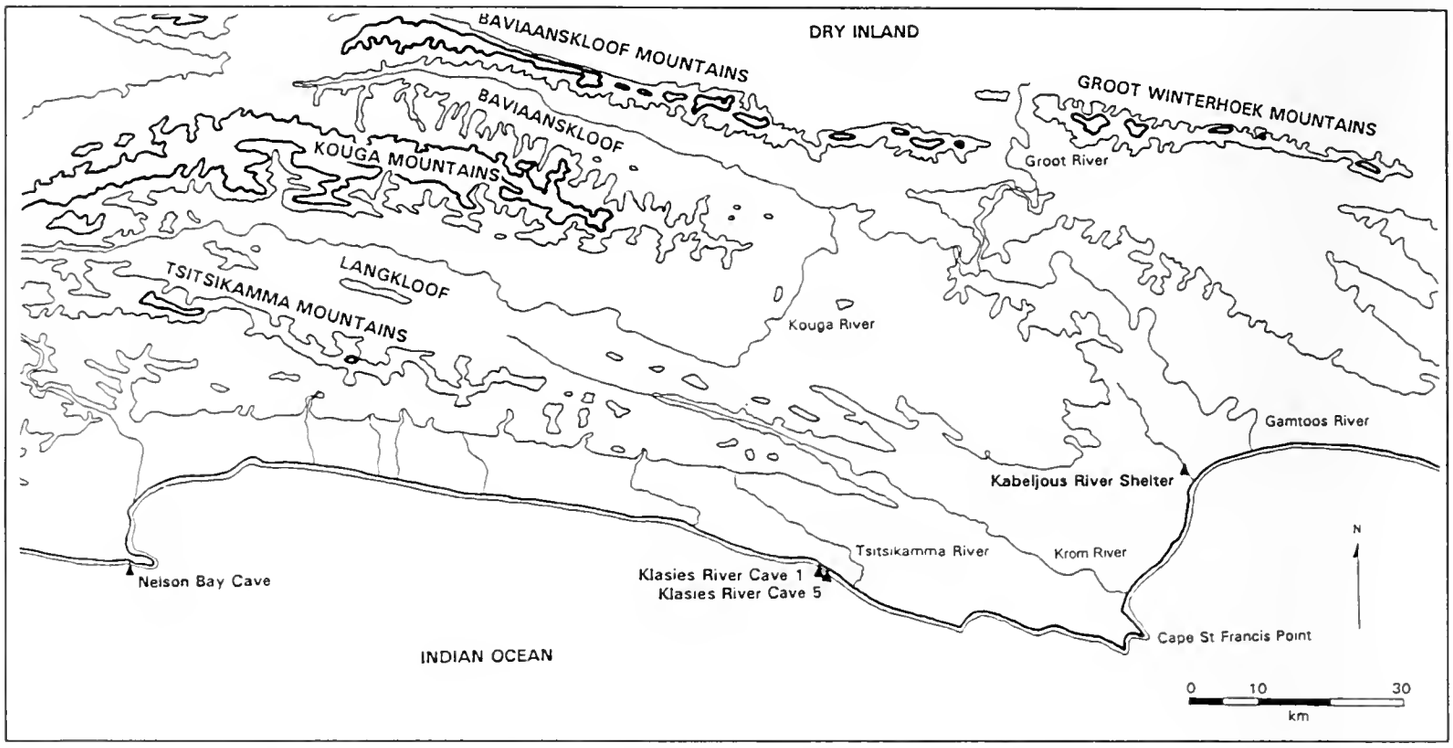

Fig. 1. Location of Kabeljous River Shelter and other major coastal sites mentioned in the text.

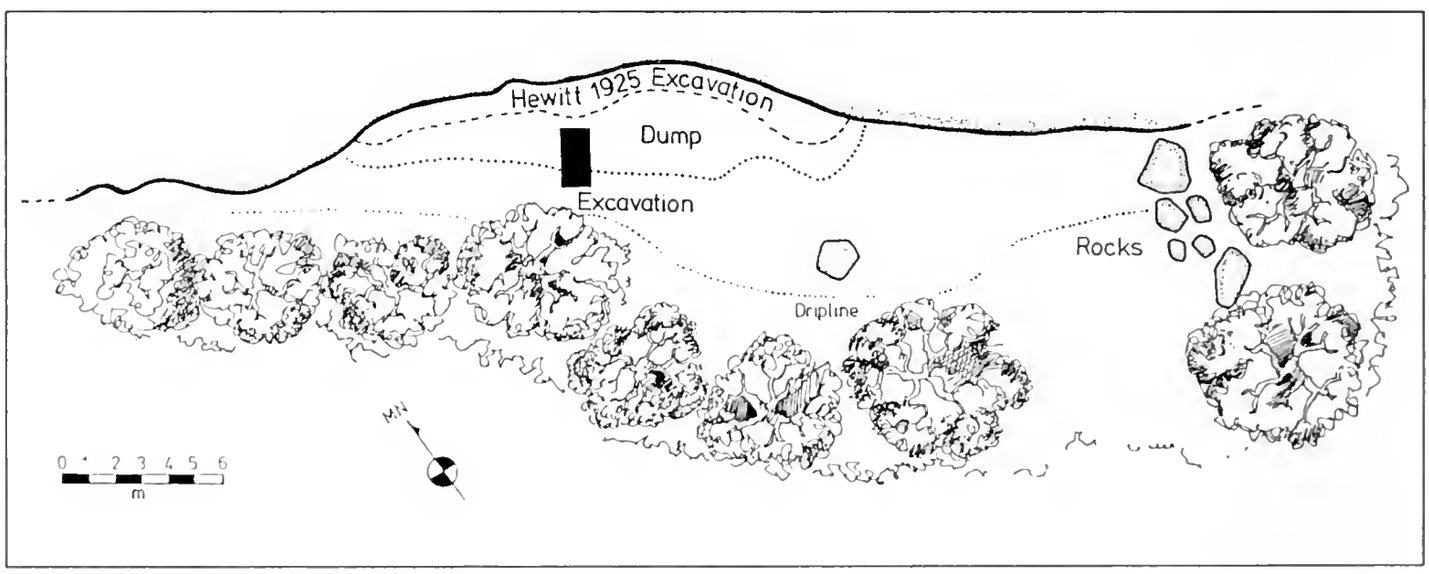

Fig. 2. Plan of Kabeljous River Shelter 1.

into a soft grey and coarse-grained, orange coloured soil towards the rear.

Unit RGA (Red brown and grey ash)

The top part of this unit consists of reddish ashy deposits with occasional patches of white ash and loosely packed (GA/PS). The bottom part is composed of soft grey ash with patches of white ash (SGA).

Unit ORA (Oxidized red brown ash)

This unit is composed of a loosely packed *P perna* rich shell lens filled in by red and dark brown ashy soil. A rough quartzite lithic industry (Kabeljous Industry) replaces the microlithic industry found in the underlying units. A radiocarbon date of 2450 ± 60 BP (Pta-4614) has been obtained for this unit.

Unit CAF (Carbonised and ash floors)

This multi-layered unit is built-up of a series of thin lenses of carbonised organic material, white, grey, brown and red ash. This unit marks the end of the microlithic component at the site.

Unit CFC (Carbonised floors and crushed shell)

A characteristic of this unit is the high degree of fragmentation of the shell remains which are tightly packed in black carbonised organic material and dark brown ashy soil.

Unit GCS (Grey ashy deposits and crushed shell)

A thin brown ashy parting separates this unit from the overlying CFC unit. The shell in this unit is also highly fragmented and is packed in a grey ashy deposit.

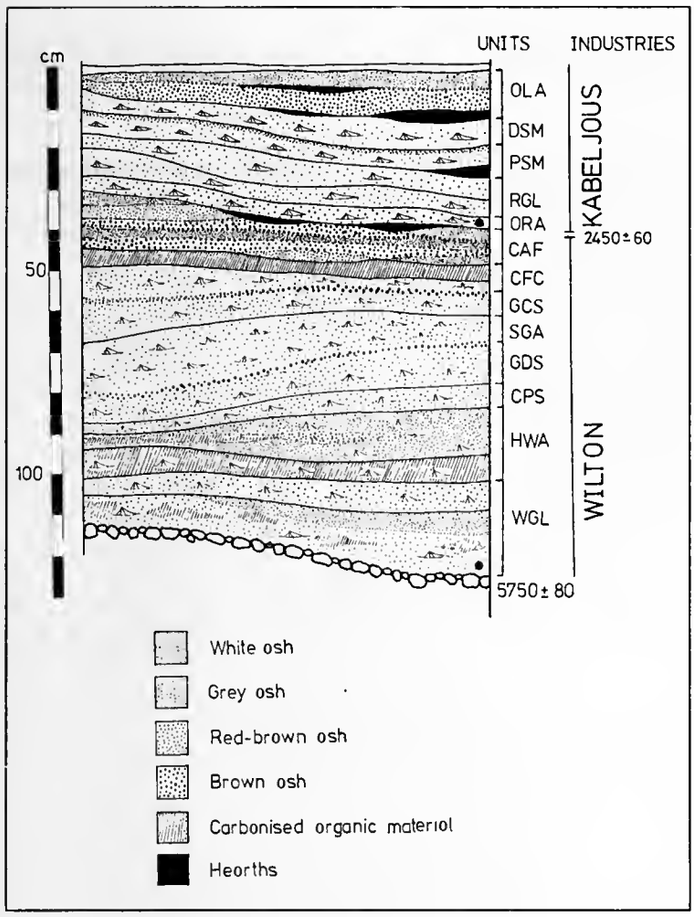

Fig. 3. Section drawing of the excavations at Kabeljous River Shelter 1.

Unit SGA (Soft grey ash)

The shell remains of this unit are in excellent condition, loosely packed in soft grey ash. A thin red brown ashy parting with fragmented *P. perna shell* (RB/CS) separates this unit from the overlying unit.

Unit GDS (Grey ash and *D. serra* midden)

This unit consists of a *D. serra* dominated midden filled in by grey ashy soil and is separated from the overlying unit by a thin brown ashy parting.

Unit CPS (Crushed *Perna* shell)

This unit is also composed of highly fragmented *P. perna* shell filled in with grey ashy soil.

Unit HWA (Hard white ash)

Underlying CPS is a unit which consists of stone hard white leached ash with patches of soft dark grey and black carbonised organic material and a lens of fragmented shell (HWA/CS).

Unit WLG (Hard white leached and soft grey ash)

This unit rest on bedrock and is composed of a shell lens filled in with soft grey ashy soil (SGA/PS) and hard white leached ash with patches of soft carbonised organic material (HWA/GAS). A typical Wilton microlithic stone tool industry manufactured of crystal quartz (similar to that found in the adjacent Cape Mountains) marked the bottom units. This unit has been radiocarbon dated to 5750 ± 80 BP (Pta-4061).

SUBSISTENCE AND DIET

Mammal remains

There are no significant differences between the Wilton and Kabeljous units in the range of species represented (J. Brink, pers. comm.). The faunal remains are dominated by small to large medium terrestrial mammals (Table 1). This may suggest that the occupants in both industries captured most of species by hunting and to a lesser degree by trapping. Among the large animals represented are two individuals of *Syncerus caffer* and *Taurotragus oryx,* one of each in both the Wilton and Kabeljous units. One *Equus* sp. is also present in the Wilton units. Only four mammal species present in the Wilton units are not represented in the Kabeljous units (could be due to small samples), and include *Procavia capensis, Equus* sp., *Potamahoerus* sp. and *Pelea capreolus* However, none of these species suggest any major environ-mental changes from the present day undulating grassy hills and densely wooded valleys in the immediate vicinity of the shelter. This is supported by the presence of the remains of *Raphicerus* sp., *Redunca fulvorufula, Alcelaphus buselapus, Taurotragus oryx* and *Syncerus caffer.* The remains of several carnivores are recorded (four larger carnivores in the Wilton units and two small carnivores in the Kabeljous units), but it is doubtful whether these animals were hunted for their meat and they probably represent causal takings.

Marine mammals (4 seal) played an insignificant role in the diet and entered the cave only occasionally (one in the Kabeljous units and three in the Wilton units).

Shellfish

Two species account for the bulk of the shellfish remains (Table 2). *P. perna* was the dominant species collected (frequency percentage and meat mass percentage), except for units DSM (Kabeljous units) and GDS (Wilton units) where they are outnumbered by *D. serra.* In the Kabeljous units *P. perna* account for 45,7% of the meat mass percentage and *D. serra* 37,3% followed by *T. sarmaticus* with only 14,1%. The situation is much the same for the Wilton units. *P. perna* (53,4%) represents a marginally higher meat mass percentage than in the Kabeljous units. Both *D. serra* with 35,6% and *T. sarmaticus* with 8,7% are represented by slightly lower meat mass percentages.

Although *P. perna* outnumbers *D. serra* in most units, the reverse is often true when meat mass was taken into consideration. For example, in unit GCS *P. perna* accounts for 70% of the total frequency of shellfish collected, but only 44% of the total meat mass. *D. serra* on the other hand, only accounts for 23% of the total frequency, but 48% of the total meat mass. This is also the case in units OLA and CPS. In unit HWA however, *T. sarmaticus* provids the second highest meat mass even though it only accounted for 5% of the total frequency of shellfish collected.

The very low frequency, and often total absence of species from the lower balanoid zone (*i.e., Scutellastra. cochlear* and *S. argenvillei*) may indicate that people did not collect shellfish at spring tides when these species are exposed and easily accessible, or that these species were simply ignored for some reason. As illustrated in Table 1 (Binneman 2001:82), the large *Scutellastra* spp., although they contain relatively

Table 1. Minimum numbers of individuals and density per volume: mammals, marine birds and fish as represented at Kabeljous River Shelter 1.

	Kabeljous units						Wilton units								
	OLA	DSM	PSM	RGA	ORA	TOTAL	CAF	CFC	GCS	SGA	GDS	CPS	HWA	WGL	TOTAL
MAMMALS															
Homo sapiens								1							1
Hyaena sp							1								1
Felis sp													1		1
Small carnivore				1		1									
Large carnivore														1	1
Arctocephalus pusillus		1				1		2	1						3
Procavia capensis									1				1		2
Equus sp											1				1
Celhalopus monticola									1	2					3
Ptamachoerus sp															3
Oreotragus oreotragus			1		1	2	3								7
Raphicerus melanotis					1	2	2	1	2	1				1	3
Raphicerus sp.	1							1	1				1		4
Pelea capreolus						1	3		1						6
Redunca fulvorufula			1			2	1		1		1	2		1	3
Alcelaphus buselapus					2	1	3								1
Sylvicapra grimmia					1	1							1		1
Taurotragus oryx			1			1	1								
Syncerus caffer			1												
Bovidae - general															
small	3	1		2	1	7	1	2		1		1	1		6
small medium	1	2	2		1	6	4	2			1		1	1	9
large medium	4	1	2	1	2	10	3	1		1	1	1		1	8
large	2			1		3	1				1	1	1	1	5
TOTAL	**11**	**5**	**8**	**5**	**9**	**38**	**23**	**10**	**8**	**5**	**5**	**5**	**7**	**6**	**69**
REPTILES (tortoise)															
Homopus areolatus	13	5	8	4	5	35	2	5	11	7	3	1	4	7	40
Chesina angulata	1		1	1		3	1	3	4	1	1	1		1	12
Pelmedusa subrufa (turtle)														1	1
TOTAL	**14**	**5**	**9**	**5**	**5**	**38**	**3**	**8**	**15**	**8**	**4**	**2**	**4**	**9**	**53**
MARINE BIRDS															
Phalacrocorax carbo lucidus							1	1							2
Spheniscus demersus							1			1	1	1		1	5
Larsus dominicanus							?1					1			1
Unidentified	1		1					1		2					3
TOTAL	**1**		**1**				**3**	**2**		**3**	**1**	**2**		**1**	**12**

high meat mass per individual, are not the most economical species to collect in terms of total weight (shell and meat) *versus* meat mass return. Therefore, it is possible that the occupants of Kabeljous Shelter collected and transported only those shellfish species back to the shelter which provided them with the most economical return from the total weight collected. However, this is not true in the case of *T. sarmaticus* and *Oxystele* spp. On the other hand, *T. sarmaticus* contain the second highest meat mass per individual species (Table 2) and therefore would have been a logical choice if shellfish were collected on the basis of size alone. The peecntage frequencies of both *T. sarmaticus* and *Oxystele* spp. is very low throughout the sequence and would not have made a substantial difference to the total collecting weight if not collected. *Oxystele* spp. on the other hand, may have been the contribution of children or collected in small quantities as variety to the shellfish diet (Meehan 1982). The ratio between total shellfish weight collected per volume and the actual edible shellfish meat mass per volume range from 32,2% (unit OLA) to 44,2% (unit GSC). The difference in the mean edible shellfish meat mass per volume for the two industries is 1,3% (Wilton 38,2% and Kabeljous 36,9%). This indicates that the Wilton groups were marginally more economical in the shellfish (higher meat mass per total weight) collected and transported to the shelter than the Kabeljous groups. In other words, the Wilton groups collected and transported slightly less shell weight back to the shelter.

What ever the reason for the low frequencies of species from the lower balanoid zone, it is proposed that in general those species which were abundant and easy to collect with a relatively high meat mass per individual (such as *P. perna* and *D. serra*) were collected. These two species are also amongst the most economical species when the percentage edible meat mass *versus* total shellfish weight are considered (*P. perna* 35% and *D. serra* 42%) (Table 2). In the absence and/or scarcity of the big three (*S. capensis, H. spadicea* and *H. midae*), these two species are the logical choice. However, the presence of *S. tabularis, S. barbara, H. spadicea* and *T. sarmaticus* nevertheless indicate that these relatively large meat mass per individual species were collected when encountered irrespective of total weight and percentage meat mass return.

Marine fish

The marine fish remains were analysed by C. Poggenpoel

Table 2. Shellfish frequency percentage per species and percentage meat mass contribution from Kabeljous Shelter 1: Kabeljous units.

	OLA				DSM				PSM			
	f	**f %**	**mm/gr**	**mm %**	**f**	**f %**	**mm/gr**	**mm %**	**f**	**f %**	**mm/gr**	**mm %**
Perna perna	452	50,9	1717,6	37,0	241	32,8	915,8	14,3	855	71,9	3847,5	58,8
Donax serra	154	17,3	1817,2	39,1	362	49,3	4887,0	76,3	167	14,0	1870,4	28,6
Scutellastra argenvillei	11	1,2			1	0,1						
Scutellastra barbara	6	0,7			1	0,1			6	0,6		
Scutellastra cochlear	15	1,7			9	1,2			4	0,3		
Scutellastra longicosta	36	4,1	54,0	1,2	26	3,5			16	1,3		
Cymbula miniata					1	0,3						
Cymbula oculus	5	0,6			1	0,1			1	0,1		
Scutellastra tabularis	3	0,3			1	0,1			3	0,3		
Haliotis midae												
Haliotis spadicea	2	0,2			7	1,0	133,0	2,1	8	0,7	244,8	3,7
Oxystele spp.	92	10,4	73,6	1,6	40	5,4			55	4,6		
Turbo sarmaticus	99	11,2	980,1	21,1	42	5,7	470,4	7,3	68	5,7	578,0	8,8
Burnupena spp.	4	0,5							3	0,3		
Dinoplax gigas	9	1,0			3	0,4			4	0,3		
TOTAL	888	100,1	4642,5	100,0	735	100,0	6406,2	100,0	1190	100,1	6540,7	99,9

Buckets sampled	27	10	14
Buckets analysed	4	2	4
Meat mass/volume	1160,6	3203,1	1635,2
Total collecting mass	3602,5	7828,7	4391,8
% meat mass of total mass/volume	**32,2**	**40,9**	**37,2**

Only those shellfish species which contributed relatively high meat mass are considered.

	RGA				ORA				TOTAL			
	f	**f %**	**mm/gr**	**mm %**	**f**	**f %**	**mm/gr**	**mm %**	**f**	**f %**	**mm/gr**	**mm %**
Perna perna	403	60,7	1934,4	54,4	1038	65,0	5605,2	58,9	2989	58,90	14020,5	45,73
Donax serra	119	17,9	1261,4	35,5	211	13,2	1603,6	16,9	1013	19,96	11439,6	37,31
Scutellastra argenvillei									12	0,24		
Scutellastra barbara	1	0,2			6	0,4			20	0,39		0,18
Scutellastra cochlear	13	2,0			29	1,8			70	1,38		
Scutellastra longicosta	11	1,7			57	3,6			146	2,88	54,0	0,48
Cymbula miniata									1	0,02		2,01
Cymbula oculus	6	0,9			5	0,3			18	0,35		
Scutellastra tabularis	6	0,9	145,8	4,0	6	0,4			19	0,37	145,8	
Haliotis midae					1	0,1			1	0,02		
Haliotis spadicea	4	0,6			11	0,7	239,8	2,5	32	0,63	617,6	3,7
Oxystele spp.	69	10,4			101	6,3			357	7,03	73,6	
Turbo sarmaticus	27	4,1	216,0	6,1	118	7,4	2065,0	21,7	354	6,98	4309,5	8,8
Burnupena spp.	1	0,2							8	0,16		
Dinoplax gigas	4	0,6			15	0,9			35	0,69		
TOTAL	644	100,2	3557,6	100,0	1598	100,1	9513,6	100,0	5075	100,00	30660,6	99,9

Buckets sampled:	11	14	Total buckets excavated:	76
Buckets analysed:	4	5	Total buckets analysed:	19
Meat mass/vol:	889,4	1902,7	Mean meat mass/volume:	1613,7
Total collecting mass:	2511,1	5098,4	Mean collecting mass/vol:	4377,7
% meat mass of total mass/vol:	**35,4**	**37,3**	% mm of total mass/vol:	**36,9**

Only those shellfish species which contributed relatively high meat mass are considered.

Table 2. continues. Shellfish frequency percentage per species and percentage meat mass contribution from Kabeljous Shelter 1: Wilton units.

	CAF				CFC				GSC			
	f	f %	mm/gr	mm %	f	f %	mm/gr	mm %	f	f %	mm/gr	mm %
Perna perna	338	62,1	1757,6	76,5	167	73,0	1002,0	57,1	816	69,7	3427,2	44,2
Donax serra	36	6,7	334,8	14,5	29	12,7	464,1	26,5	268	22,9	3778,8	48,8
Scutellastra argenvillei					8	3,5	112,2	6,4				
Scutellastra barbara	6	1,1			2	0,9			1	0,1		
Scutellastra cochlear	6	1,1			2	0,9			6	0,5		
Scutellastra longicosta	78	14,3	85,5	3,7	4	1,8			17	1,5		
Cymbula miniata					1	0,4						
Cymbula oculus	10	1,8							2	0,2		
Scutellastra tabularis	5	0,9			1	0,4			2	0,2		
Oxystele spp.	51	9,4			3	1,3			23	2,0		
Turbo sarmaticus	12	2,2	120,0	5,2	11	4,8	175,1	10,0	35	3,0	542,5	7,0
Burnupena spp.					1	0,4						
Dinoplax gigas	2	0,4							1	0,1		
TOTAL	544	100,0	2298,2	99,9	229	100,1	1753,4	100,0	1171	100,2	7748,5	100,0

Buckets sampled	20	19	25
Buckets analysed	4	1	4
Meat mass/volume	574,6	1753,4	1937,1
Total collecting mass	1761,5	4442,2	4386,2
% meat mass of total mass/volume	**32,6**	**39,5**	**44,2**

Only those shellfish species which contributed relatively high meat mass are considered.

	SGA				GDS				CPS			
	f	f %	mm/gr	mm %	f	f %	mm/gr	mm %	f	f %	mm/gr	mm %
Perna perna	452	63,3	2983,2	52,3	88	24,9	554,4	15,1	216	55,2	1252,8	45,2
Donax serra	130	18,2	1755,0	38,8	220	62,2	2970,0	80,7	103	26,3	1328,7	48,0
Scutellastra argenvillei												
Scutellastra barbara	2	0,3			1	0,3						
Scutellastra cochlear	16	2,2							1	0,3		
Scutellastra longicosta	24	3,4			1	0,3			7	1,8		
Cymbula miniata					3	0,9						
Cymbula oculus	4	0,6							2	0,5		
Scutellastra tabularis	3	0,4										
Haliotis spadicea	22	3,1	501,6	8,8	3	0,9			8	2,1		
Oxystele spp.	32	4,5			29	8,2	69,6	1,9	44	11,3		
Turbo sarmaticus	28	3,9	462,0	8,1	9	2,5	85,5	2,3	9	2,3	187,2	6,8
Dinoplax gigas	1	0,1							2	0,4		
TOTAL	714	100,0	5701,8	100,0	354	100,2	3679,5	100,0	391	100,2	2768,7	100,0

Buckets sampled	15	11	8
Buckets analised	4	2	1
Meat mass/volume	1425,3	1839,8	2768,7
Total collecting mass	3932,3	4700,9	6926,5
% meat mass of total mass/volume	**36,2**	**39,1**	**40,0**

Only those shellfish species which contributed relatively high meat mass are considered

Table 2. continues. Shellfish frequency percentage per species and percentage meat mass contribution from Kabeljous Shelter 1: Wilton units.

	HWA				WGL				TOTAL			
	f	f %	mm/gr	mm %	f	f %	mm/gr	mm %	f	f %	mm/gr	mm %
Perna perna	626	78,4	3942,8	70,2	460	83,0	2760,0	78,3	3163	66,52	17681,0	53,43
Donax serra	52	6,5	728,0	13,0	32	5,8	416,1	11,8	870	18,29	11775,5	35,59
Scutellastra argenvillei	2	0,3							10	0,21	112,2	0,34
Scutellastra barbara	1	0,1			2	0,4			13	0,27		
Scutellastra cochlear					7	1,3			33	0,69		
Scutellastra longicosta	7	0,9			1	0,2			145	3,05	85,5	0,26
Cymbula miniata	1	0,1			1	0,2			6	0,15		
Cymbula oculus	2	0,3							21	0,44		
Scutellastra tabularis					1	0,2			12	0,25		
Haliotis midae					6	1,1			1	0,02		
Haliotis spadicea	7	0,9			30	5,4			46	0,96	501,6	1,52
Oxystele spp.	60	7,5			12	2,2	348,0	9,8	272	5,72	69,6	0,21
Turbo sarmaticus	39	4,9	943,8	16,8					155	3,25	2864,1	8,66
Burnupena spp.									1	0,02		
Solen capensis					1	0,2			1	0,02		
Dinoplax gigas	1	0,1			1	0,2			6	0,15		
TOTAL	798	100,0	5615,6	100,0	554	100,2	3524,1	99,9	4755	100,2	33089,8	100,01

Buckets sampled	24	25	Total buckets excavated:	147
Buckets analysed	3	2	Total buckets analysed:	21
Meat mass/volume	1871,9	1762,1	Mean meat mass/volume:	1575,7
Total collecting mass	5005,2	5290,2	Total collecting mass/vol.:	4127,9
% meat mass of total mass/volume	**37,4**	**33,3**	% mm of total mass/vol:	**38,2**

Only those shellfish species which contributed relatively high meat mass are considered.

and the detailed results will be published with the data from the other coastal sites in the near future. Of the twelve spesies of fish recovered from Kabeljous River Shelter 1, *Liza richardsonii* ("haarder"/southern mullet) comprised 44,6%, followed by *Rhabdorargus holubi* (Cape stumpnose), 20,7% and *Lithognathus lithognathus* (white steenbras) 18,2%. According to Poggenpoel (pers. comm) the mean mullet size from the shelter is smaller than those recovered from middens KR/M1A & 1B and KR/M2A & 2B (Binneman 2005) at the mouth of the Kabeljous River estuary (the shelter is some four kilometres from the coast). This may suggest that the fish were taken from different habitat. It is also unclear what methods were used to catch such small fish.

Marine birds

The excavation yielded the remains of only 14 birds which probably represent the occasional find on the beach and are therefore not considered of any importance in the general diet (Table 1).

Reptile (tortoise) remains

Kabeljous River Shelter 1 is the only site in the research area that yielded substantial quantities of tortoise remains (Table 1). The numbers are too low to reach any definite conclusions, but it seems that the site was probably occupied during summer.

Of the 91 tortoises recovered from the excavation, 75 were *Homopus areolatus* (padlopertjie) and 15 were *Chersina angulata* (rooipens). One turtle (*Pelmedusa subrufa*) was also found. Both tortoises are endemic to the Eastern Cape. *H. areolatus* occurs mainly along the southern Cape coast of South Africa, but local climatic, topographical and vegetation conditions have enabled the species to extend its inland distribution into the Cape Eastern Midlands as far as Cradock. It seems to be absent from the Karoo areas with a rainfall of less than 250 mm per annum and altitudes of less than 900 m (Greig & Burdett 1976:256). *C. angulata* occurs along to the coast from East London to the Orange River mouth. In the Eastern Cape it is usually found in sour grassveld associated with coastal forests and a rainfall of between 600 mm and 700 mm. The species is known to occur also in areas where the annual rainfall is less than 100 mm (Greig & Burdett 1976:253).

Remains of other reptiles, mainly snakes were recovered, but have not been identified.

CULTURAL REMAINS

THE LITHIC INDUSTRIES

As reported previously (Binneman 1985, 1996, 2001, 2005), research along the Cape St Francis coast identified two types of stone tool assemblages, namely, a microlithic Wilton Industry similar to the Wilton type Industry found in the adjacent Cape Mountains and a macrolithic flaked cobble quartzite assemblage with large segments/backed flakes as prominent 'formal' stone tool types. These stone

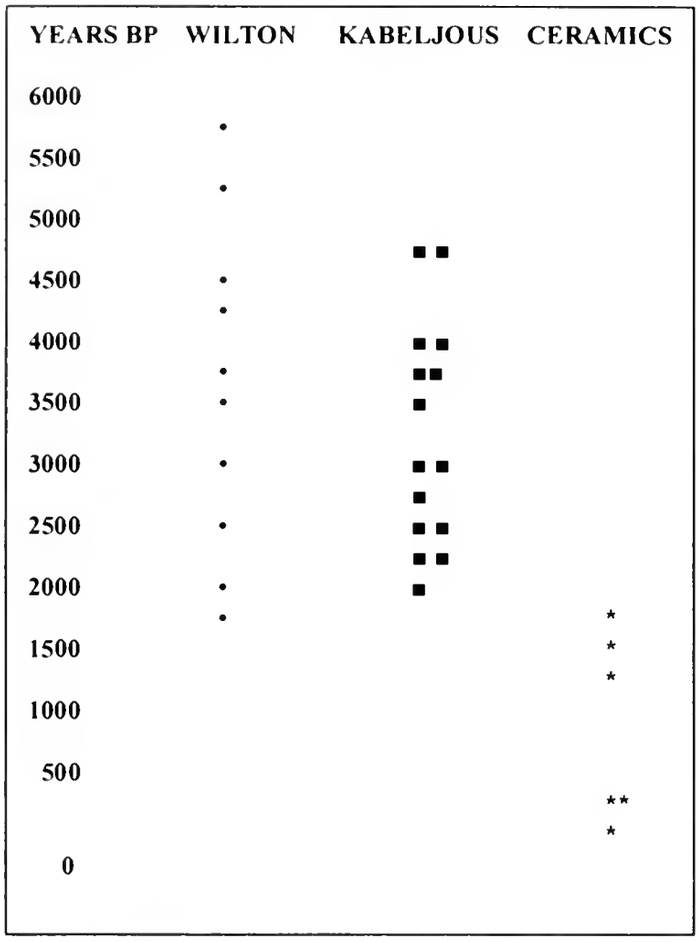

Fig. 4. Radiocarbon dates from the Cape St Francis coastal region for the different industries.

tool assemblages previously informally labelled and referred to as the Wilton Industry and he Kabeljous Industry and, were contemporaneous along the coast (Fig. 4).

The Wilton Industry

The microlithic Wilton stone tool industry from the lower units at Kabeljous River Shelter 1 is similar to that found at adjacent inland sites, for example, The Havens Cave and Groot Kommandokloof Shelter (Binneman 1997, 1999) and Wilton Large Rock Shelter (Hewitt 1921; Deacon 1972) and Melkhoutboon Cave (Hewitt 1931; Deacon 1976) further a field in the Cape Mountain region and therefore needs no further discussion.

The majority of the formal tools were manufactured from crystal quartz and crystals themselves are common in the Wilton units. Apart from quartzite, other raw materials are virtually absent (see Binneman 1996 for more information).

The Kabeljous Industry

Currently, there are four major sites along the Eastern Cape coast, Kabeljous River Shelter 1, Klasies River Caves 1 and 5 and Nelson's Bay Cave where cobble quartzite stone tools are known to occur. It is only at Klasies River Cave 1 and 5B (rear excavation) where it is not found overlying a typical Wilton microlithic industry.

It is evident from Table 3 that a significant change in the lithic content at Kabeljous River Shelter 1 occurred after unit CAF. At approximately 2450 years ago (unit OLA), the microlithic element disappears from the sequence and only a

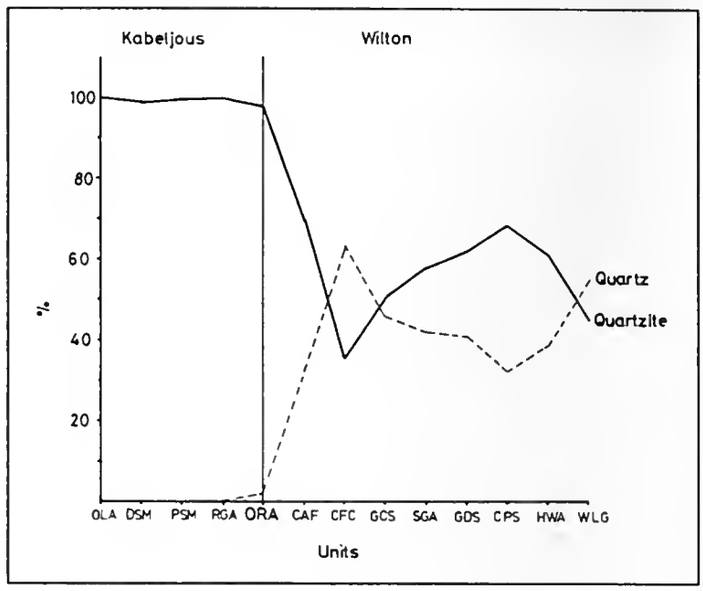

Fig. 5. Raw material percentage frequencies at Kabeljous River Shelter 1.

rough quartzite flake and cobble industry is present in the upper units. This is a relatively late date for the industry in comparison with the date of approximately 4500 BP at Klasies River Cave 1.

It is clear from Figure 5 that the percentage frequencies of quartz and quartzite follow opposite trends through time. Quartz crystals were not found in the Kabeljous units. In the earlier units quartzite gradually increases to become the dominating raw material (68%) in unit CPS. Quartz on the other hand declines gradually to only 32%. Thereafter quartzite declines to only 36% in unit CFC while quartz increases to 64%. After unit CFC quartzite increases dramatically and become the only raw material used in units RGA and OLA. At the same time quartz decreases dramatically and become insignificant as a raw material.

The Kabeljous quartzite toolkit can be described as a 'recycled industry', because virtually all the stone artefacts were manufactured from previously used artefacts, such as lower and upper grindstones, rubbers and hammer stones. It would suggest that the tool makers seldom travelled to collect cobbles from the nearest source, but rather used artefacts that were available on site. It is also interesting to note that artefacts such as lower grindstones and rubbers which were used as cores are traditionally regarded as women's tools.

The heavy duty cobble tools are divided into three groups:

1. Cobble core tools and other utilised tools

These are artefacts such as grindstones, rubbers and hammer stones which have been systematically flaked to obtain flakes for other purposes (Fig. 6). Typologically these would be classified as cores and are found occasionally in all other Later Stone Age Industries. At sites classified as belonging to the Kabeljous Industry, these tools are numerous and hundreds were observed in the St Francis Bay Dune Fields Areas (Binneman 2005, fig. 2, p. 55). Close examination shows that these tools could have been used as adzes (core adzes) and possibly also as scrapers (core scrapers). These tools were probably not deliberately designed to perform any function, but were used opportunistically or when at hand. Most of these

Table 3. Frequencies and percentage frequencies of stone artefacts from Kabeljous River Shelter 1.

	Kabeljous units						Wilton units							
	OLA	DSM	PSM	RGA	ORA	TOTAL	CAF	CFC	GCS	SGA	GDS	CPS	HWA	WGL	TOTAL
WASTE															
Chips															
Total	185	209	446	200	59	1099	250	455	287	59	304	458	707	867	3387
Chips as % of Total waste	23,4	36,1	40,0	42,6	13,8	32,5	38,1	32,8	28,9	14,5	34,0	34,7	47,3	42,5	36,8
Chunks															
Total	2	-	3	-	4	9	9	65	14	15	6	2	1	-	108
Chunks as % of Total waste	0,3	-	0,3	-	0,9	0,3	1,4	4,7	1,5	1,5	0,2	0,1	0,7	-	1,2
Cores															
Total	-	-	2	3	-	5	-	1	-	-	2	6	4	25	38
Cores as % of Total waste	-	-	0,2	0,6	-	0,1	-	0,1	-	-	0,2	0,5	0,3	1,2	0,4
Core Reduced Pieces															
Total	-	1	2	-	2	5	9	39	28	12	18	15	17	43	181
CPR as % of Total waste	-	0,2	0,2	-	0,5	0,1	1,4	2,8	2,8	2,9	2,0	1,1	1,1	2,1	2,0
Flakes															
Total	604	369	661	266	363	2263	389	828	663	331	578	838	758	1103	5488
Flakes as % of Total waste	76,4	63,8	59,3	56,7	84,4	66,9	59,2	59,7	66,8	81 1	63,9	63,6	50,7	54,1	59,6
Total waste	**791**	**579**	**1114**	**469**	**428**	**3381**	**657**	**1388**	**993**	**408**	**904**	**1318**	**1496**	**2038**	**9202**
Total waste as % of GRAND TOTAL	98,0	97,8	98,9	98,9	97,7	98,4	98,9	98,7	98,7	98,6	97,0	99,1	99,6	98,1	98,6
UTILIZED															
Cores	-	-	-	-	-	-	-	3	2	-	3	-	-	-	8
Rubber/cores	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2
Hammerst/rub/cores	-	-	-	-	-	-	-	-	-	1	1	1	-	-	3
Rubbers	3	-	-	1	-	4	-	-	-	-	-	1	-	-	1
Hammerst/rubbers	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Grindstones	-	-	1	-	-	1	-	-	-	-	-	2	-	-	2
Hammer stones	-	-	2	-	-	2	-	-	-	-	-	-	-	-	-
Flakes	2	-	1	2	4	9	1	3	1	1	4	2	2	8	22
Total	6	-	4	3	4	17	1	6	3	2	8	8	2	8	38
Utilized as % of GRAND TOTAL	0,7	-	0,7	0,3	0,8	0,5	0,2	0,4	0,3	0,5	1,2	0,4	0,1	0,4	0,4
FORMAL TOOLS															
COBBLE TOOLS															
Large scrapers	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-
Cobble scrapers	-	-	2	-	1	3	-	-	-	-	-	-	-	-	-
Rubber/scrapers	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Adzes	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-
Cobble adzes	4	4	3	1	2	14	-	2	-	-	-	1	-	2	5
Rubber adzes	1	3	1	-	1	6	-	-	-	-	-	-	-	-	-
Hammer/adzes	-	3	2	-	-	6	-	-	-	-	-	-	-	1	1
Ham/rub/adzes	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
Large segments	1	1	-	-	-	2	-	-	-	-	-	-	-	-	-
Misc. Retouched	3	-	-	-	-	3	-	-	-	-	-	-	-	-	-
Reamers	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-
Small scrapers	-	-	-	-	-	-	3	7	8	3	10	5	2	28	66
Adzes	-	-	-	-	-	-	2	-	-	-	-	-	-	-	2
Borers	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
Segments	-	-	-	-	-	-	2	6	7	1	2	11	2	11	42
Backed flakes	-	-	-	-	-	-	-	2	1	1	2	1	2	1	10
Bored stones	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Misc. retouched	-	-	-	1	-	1	-	-	-	-	1	-	-	-	1
Total	10	13	8	2	6	39	8	15	17	5	15	18	6	40	123
Formal tools as % of GRAND TOTAL	1,2	2,2	0,7	0,4	1,4	1,1	1,2	1,1	1,7	1,2	1,6	1,3	0,4	2,0	1,3
GRAND TOTAL	**807**	**592**	**1126**	**474**	**438**	**3437**	**666**	**1412**	**1013**	**415**	**934**	**1341**	**1504**	**2089**	**9368**
OTHER								31							
Ochre	19	30	96	118	26	189	40	39	7	17	19	24	22	26	186
Shale	1	2	14	13	17	47	5	-	112	25	31	40	22	14	288
Crystals	-	-	-	-	-	-	-	-	2	4	19	23	8	24	80

artefacts had multiple functions before they were converted into cores, such as grindstones, rubbers and hammer stones. A high number also display ochre and/or charcoal stains.

Other utilised tools include milled edged pebbles, bored stones, rubbers, rubber/hammer stones, hammer stones, battered pieces, core reduced pieces and utilised flakes.

2. Formal cobble tools

These are mainly rubbers and hammer stones which have been systematically/purposefully flaked to display one or more

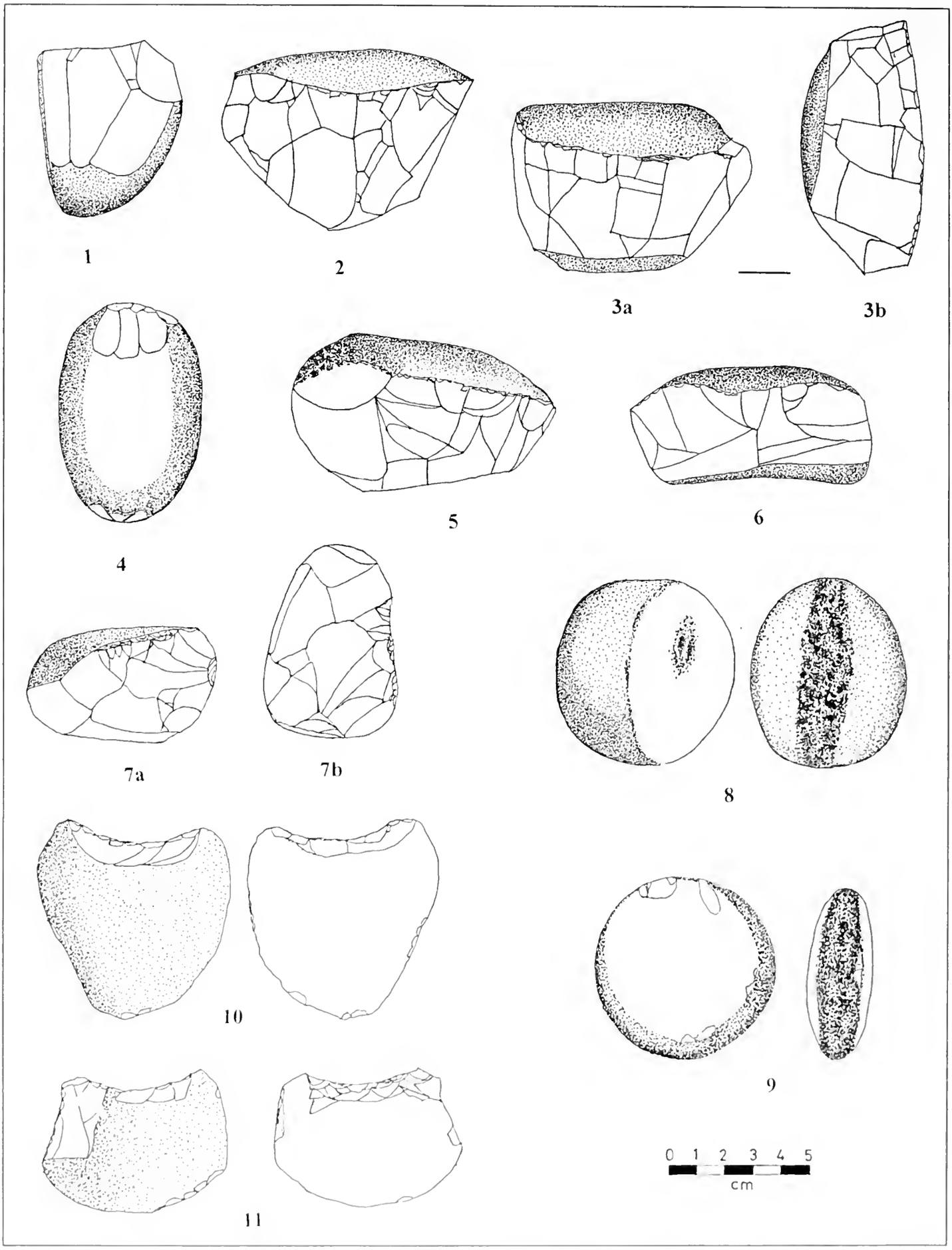

Fig. 6. Sample of utilized cobble core tools: 1. flaked rubber, 2. flaked upper grindstone, 3a. flaked upper grindstone, b. side view displaying a possible used edge, 4. rubber used as a hammer stone, 5. upper grindstone used as a hammer stone, 6. flaked lower grindstone, 7a. flaked rubber, b. side view displaying a possible used edge, 8. rubber used as a hammer stone, 9. Milled edge pebble, 10 and 11. battered pieces.

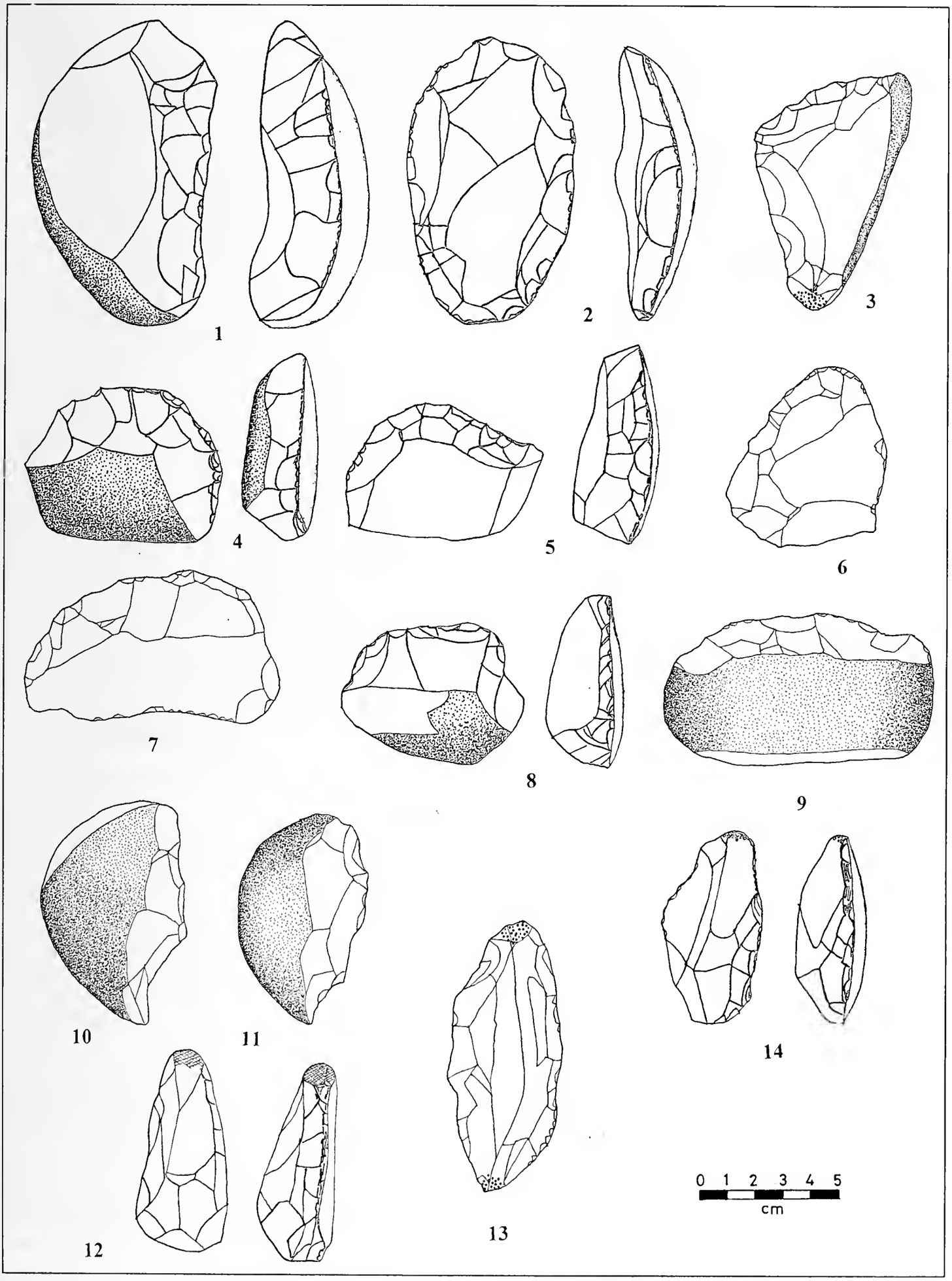

Fig. 7. Sample of Kabeljous Industry formal cobble tools: 1-9. cobble scrapers (2 also used as hammer), 10 and 11. cobble adzes, 12-14. adzes (12 also used as a drill, 13 and 14 also used as hammers).

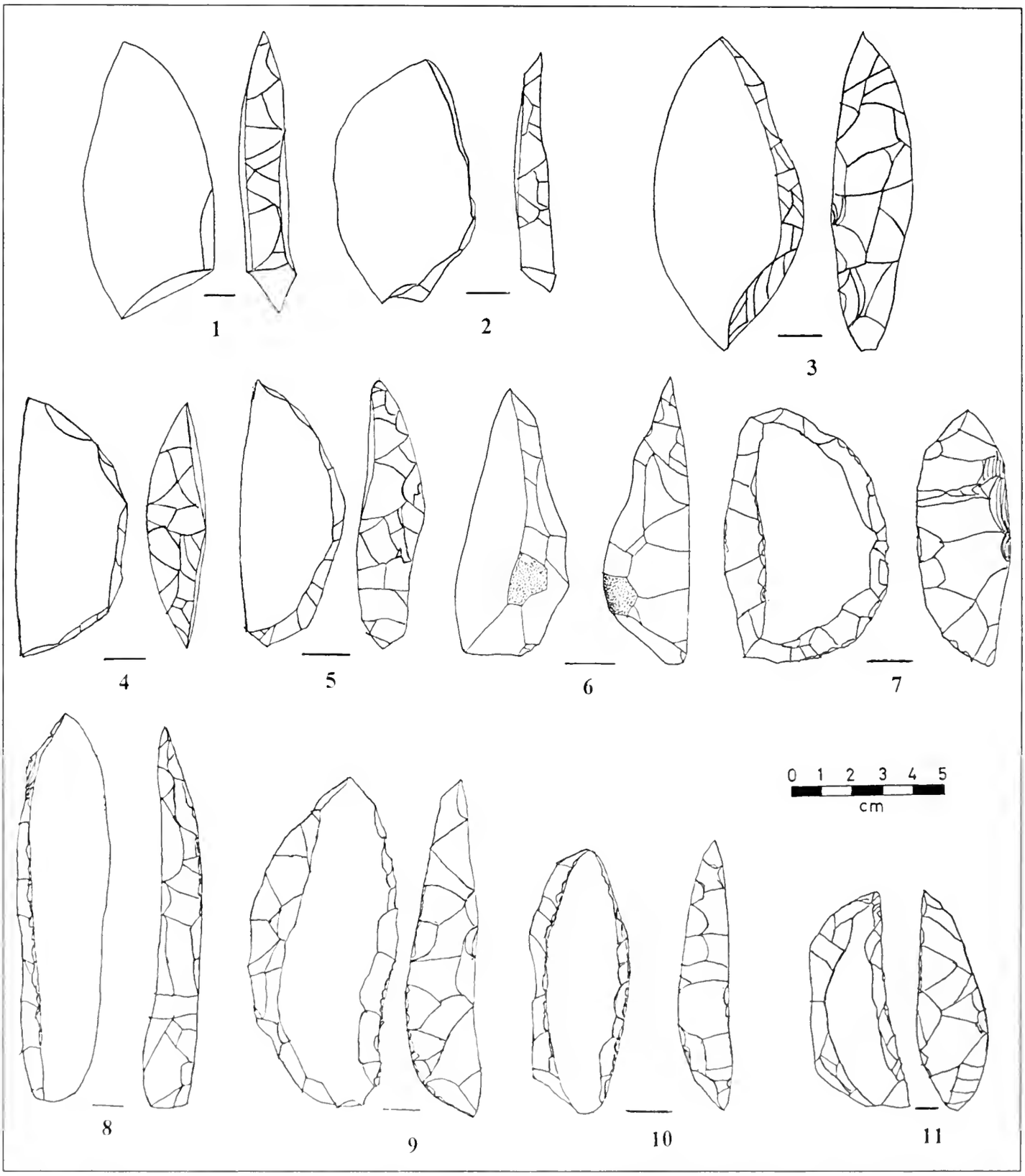

Fig. 8. Sample of Kabeljous Industry formal backed flaked tools: 1-3 backed flakes/segments, 4-6. segments, 7. 'backed scraper', 8. Backed blade, 9-11. heavy utilised (adze type edge) backed flakes.

working edges similar to that of the Wilton types, for example adzes, and scrapers. (Fig. 7). The only difference is that these tools are much larger.

3. Formal backed flake tools

The backed stone tool category includes a variety of types (Fig. 8), such as backed flakes (uneven cord), segments (straight cord), 'backed scrapers' (typical circular scraping edge), 'backed adzes' (typical step flaked and edges) and backed blades. The backed flaked tools often display well-utilised and/or retouched edges, which may indicate that these tools were exposed to heavy duty activities.

Other lithic material

Ochre and shale pieces were well represented throughout the sequence, but ground (pencils?) and flaked pieces were

Table 4. Frequencies of worked shell and bone from the Kabeljous River Shelter 1.

	Kabeljous units						Wilton units								
	OLA	DSM	PSM	RGA	ORA	TOTAL	CAF	CFC	GCS	SGA	GDS	CPS	HWA	WGL	TOTAL
MARINE SHELL															
Nassarius kraussianus															
Shell	1					1			1		1			1	3
Beads	4		3			7			1				1	1	3
Donax serra															
Pendants		2	2	3		7		3	10	15	15	14	5	4	66
Scrapers	3	4	3	5	8	23	4	5	20	13	6	8	7	4	67
Pend/scrapers								2	2	2		2		5	13
Bullia digitalis															
Beads	1					1									
Thias squasmosa															
Beads														1	1
TOTAL	**9**	**6**	**8**	**8**	**8**	**39**	**4**	**10**	**34**	**30**	**22**	**24**	**13**	**16**	**153**
OSTRICH EGGSHELL															
Fragments	1					1	1						1		2
Roughouts	2					2	1								1
Beads	1	1				2		6		4	2	1	31	51	95
Pendants		1				1									
Openings															
TOTAL	**4**	**2**				**6**	**2**	**6**		**4**	**2**	**1**	**32**	**52**	**99**
BONE															
Points												1		1	2
Awls	2					2									
TOTAL	**2**					**2**						**1**		**1**	**2**
GRAND TOTAL	**15**	**8**	**8**	**8**	**8**	**45**	**6**	**16**	**34**	**34**	**23**	**26**	**44**	**68**	**249**

Unworked marine shell and ostrich eggshell are not included in the Grand Total.

only found in the Kabeljous units (Table 3).

Non-lithic artefacts

Apart from a few pot shards on the surface, no pottery was found in the excavation.

Marine shell

Donax serra pendants and 'scrapers' were well represented throughout the sequence (Table 4) (Fig. 9). The combination of the two types, pendant/scrapers, was only present in the Wilton units. The functions of these artefacts are not known, but it is possible that the 'scrapers' were used to clean fish, and that the pendants were possibly used as dancing rattles during ceremonial activities (Inskeep 1987). Although *N. kraussianus* beads and shells are present in very low numbers, they are found in the time period when these ornaments were absent from the inland sites (H.J. Deacon 1976; J. Deacon 1982).

Ostrich eggshell

Ostrich eggshell beads were numerous in the bottom two units (WLG and HWA), but subsequently drop off sharply, and were virtually absent in the Kabeljous units (Table 4). Although a relatively high frequency of ostrich eggshell beads was present in the Wilton units, only one roughout was found.

Bone artefacts

Few bone artefacts were found (Fig. 8). These included four bone points (only in the Wilton units) and two bone awls (only in the Kabeljous units) (Table 4).

DISCUSSION

The data from Kabeljous River Shelter 1 has made an important contribution towards constructing a model for the south-eastern Cape coast. However, it is not the aim of this paper to propose or to discuss this model here, but only to highlight a few of the interesting aspects. A comprehensive discussion will be published elsewhere (see Binneman 1996).

As discussed at the beginning of the paper, the ideas and speculations around two different, but contemporaneous stone tool industries and different size human remains from the same region, has been in the literature for a long time. During the 1920s, FitzSimons and Hewitt observed differences in the stature and skull size of the human remains they exhumed from different depths of their excavations in the Tsitsikamma region. Unfortunately they did not have the benefits of modern technology such as radiocarbon dating to assist them in their interpretations. Notwithstanding, these observations were confirmed some 80 years later (Pfeiffer & Sealy 2006; Stynder, 2006). On the basis of these observations and his

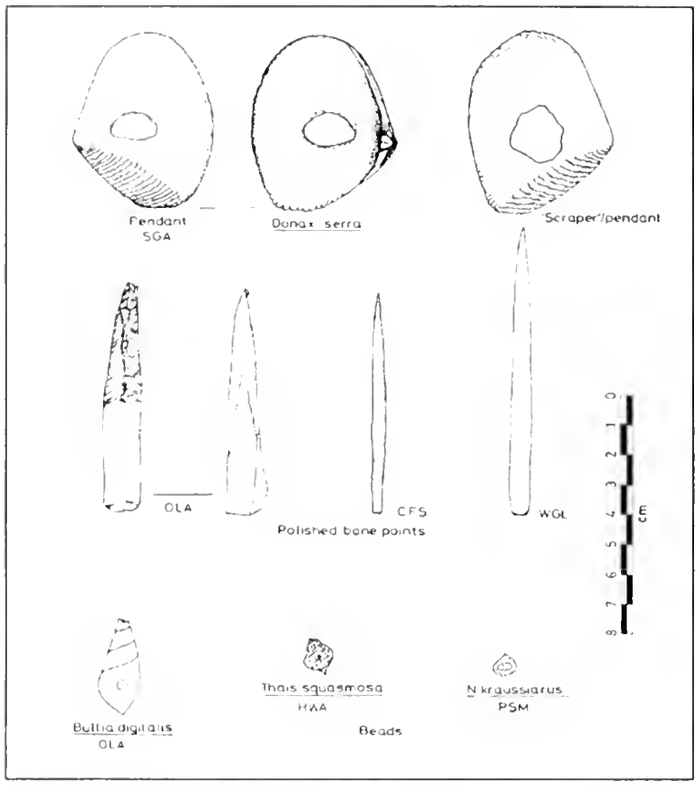

Fig. 9. Marine ornaments and bone artefacts from Kabeljous River Shelter 1.

work at the Kabeljous River Shelters, Hewitt suggested that there were also two different stone tool industries, "practically contemporaneous", and speculated that the large skulls were that of 'Hottentots' (Khoi), who were also responsible for the large quartzite stone artefacts and the smaller ones that of 'Bushmen', who were responsible for the 'pigmy' culture of the inland sites. The research at Kabeljous Shelter 1 and further along the Cape St Francis coast have now also confirmed Hewitt's speculation about contemporaneous stone tool industries.

One aim of this paper was to propose that the Kabeljous stone tool assemblage as described above, is recognised as a formal coastal industry within the Late Holocene, contemporaneous with the adjacent inland Wilton Industry. The reason for this is that the cobble quartzite stone tools, which are present at open-air shell middens and in caves and shelters along the south-eastern Cape coast, do not reflect a Wilton Industry without microliths (a coastal Wilton as some researchers refer to them), nor do they represent an 'adaptation' (different activities) to a coastal environment (Sampson 1974). As discussed above, the industry is not an 'informal' collection of stone tools, but has its own range of tool classes, which include utilised and 'formal tools', in many ways similar to Wilton types, only much larger. The fact that there are no marked differences regarding the procurement of food resources (i.e. hunting, capturing and collecting) between the two industries, would suggest that the type of stone tools played no significant role in these activities. In other words, this proposal further questions the general assumption that backed implements were used as arrowheads, which equates to hunting. Furthermore, the proposal also suggests that in order for groups to live permanently or semi-permanently along the coast they do not necessarily need a microlithic toolkit, or that the Kabeljous Industry was a mere 'adaptation' to coastal conditions.

One would have expected that the Kabeljous groups, who were the permanent residents of the coast, would have exploited a larger mean shellfish meat mass per volume than the visiting Wilton groups. This may suggest that the groups that occupied the site in both units were more or less of the same size. However, what seems to be important here is that the distance between the shelter and the coast lends preference to certain species. The shortest direct route to the nearest rocky shore from Kabeljous River Shelter 1 is approx-imately 4 km. The low frequency of *Oxystele* spp. (only 11% or less) throughout the sequence indicates that small species (relatively low meat mass per size and total weight) have been ignored in general. It is possible that *Oxystele* spp. were only collected to provide variety in the diet, or they may be the contribution of children (see Meehan 1982).

Other food remains present in the shelter, such as mammal bone, fish and tortoise show no significant differences in the subsistence activities between the Wilton and Kabeljous units. Unfortunately no plant remains have been preserved and the role of these resources will never be known. The role of tortoise in the diet is not regarded as significant. No meat mass data is available, but the live mass (including eggs) of *Chersina angulata* is between 600 and 800 gram and for *Homopus areolatus* between 100 and 150 gram (B. Branch, per. comm.), which does not provide much meat. People may not have eaten the whole tortoise, because ethnographic observations among the Nama-speaking people of Namaqualand reveals that these people may only eat the eggs or select to eat certain parts such as the liver. In other words, the collecting of tortoises may have been cultural-specific (L. Webley, pers. comm).

The lithic assemblages from Kabeljous River Shelter 1 indicates that two distinct groups occupied the cave through time. From ca 5800 BP to 2500 BP a quartz microlithic Wilton Industry was present after which it was 'replaced' by the quartzite Kabeljous Industry. This observation compliments the research done by Inskeep (1987) at Nelson's Bave Cave. Changes in raw material frequency indicate that the groups who occupied the shelter from unit ORA did not move beyond the coastal plain to collect fine grain raw materials nor did they acquire it from visiting inland groups.

It has been suggested (Binneman 1985, Binneman 1996; Henderson & Binneman 1997) that the Wilton Industry represents inland groups who visited the coast regularly/seasonally for short periods of time to supplement their diet with marine resources. They carried the silcrete and quartz crystals with them from the adjacent mountains and left them behind on the middens and in the caves and shelters. Interestingly, the dominating raw material at Kabeljous River Shelter 1 is quartz, while others such as silcrete are virtually absent. The opposite is true for the Wilton open-air shell middens west of the Krom River (Binneman 2005) (Fig. 1). Following Deacon (1976), this would suggest that that the Krom River may have been a physical boundary between two

group territories, signalled by different raw material use.

Sometime between 5000 and 4000 BP some of these groups started to settle permanently along the coast. They practised the strategy of only using local quartzite cobbles for the manufacture of stone tools. Other raw materials such as quartz and silcrete were not collected from the surrounding hills or acquired from other sources. In other words, quartzite did not replace quartz as a raw material, but rather that quartz was 'dropped' as a raw material together with the microlithic component. In most cases previously used or on site implements (rubbers and lower grindstones) were used to manufacture other tools.

The 'abandonment' of the microlithic and quartz raw material elements in favour of a macrolithic quartzite one, may suggest that the latter played an important role in the 'creation of a new set' of identity markers utilized by the coastal groups to signal their territories to visiting inland groups. The dramatic decline of ostrich eggshell beads, an important cultural item in the Wilton layers, after ORA, is more evidence to support this suggestion.

The interesting aspect is that although the Wilton disappeared from the shelter, it continued to occur on open-air shell middens until approximately 1800 BP. This archaeological evidence would suggest that the coastal groups did not practise an exclusive system, but rather an inclusive system. The latter, which can be regarded as a low-cost and effective territorial maintenance strategy, is opposite to an unproductive exclusive high-cost and risk boundary defence strategy. However, based on the results of isotope analyses of archaeological human remains from the southern Cape, Sealy (2006:582) proposed that people there "... lived in exclusive, demarcated territories with clearly defined boundaries." These and other aspects regarding group interaction will be discussed in more detail elsewhere.

Apart from the open-air shell middens, the Kabeljous Industry have been found at least five major sites (no conclusive information is available for other sites, *i.e.* Coldstream Cave (see Wilson & Van Rijssen 1990) and Forest Hall Shelter (see Wilson 1988)) which include, Klasies River Cave 1 and 5 (Binneman in prep.), Nelson's Bay Cave and Matjes River Rock Shelter. At Klasies River Cave 5A (entrance excavation) and at Nelson's Bay Cave the Kabeljous Industry overlies a Wilton Industry, but at Klasies River Cave 1 and 5B (rear excavation) the Wilton is absent (Binneman 1996; Henderson & Binneman 1997).

It can be speculated that the 'replacement' of Wilton microlithic stone tools by the Kabeljous Industry signalled the transformation of the Wilton Industry into a quartzite industry, for example, similar to when the Robberg Industry was replaced by the Albany Industry. The past 120 000 years are also characterised by 'rhythmic episodes' of change/ transformation between fine-grained microlithic stone tool industries to macrolithic quartzite industries, for example, quartzite MSA → silcrete MSA (Still Bay) → quartzite MSA → silcrete MSA (Howieson's Poort) → quartzite MSA → silcrete LSA (Robberg)) → quartzite LSA (Albany) → silcrete LSA (Wilton)) → quartzite LSA (Kabeljous). It can be speculated further that if these episodes were generally similar in character, then the archaeological record of the past 6000 years along the Cape St Francis and the adjacent Cape Mountains, provide us with an excellent 'window' for interpreting these events (Binneman 1996). Unfortunately, the arrival of the first European settlers disrupted the final stages of the transformation period.

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BOOK REVIEW

RE-VIEWING THE ARCHAEOLOGY OF SOUTHERN AFRICA

PETER MITCHELL

School of Archaeology, University of Oxford

and

St Hugh's College, Oxford, OX2 6LE, United Kingdom

email: peter.mitchell@st-hughs.ox.ac.uk

Schoeman's (2004/05) recent review of my book, *The Archaeology of Southern Africa* (Mitchell 2002), raises some interesting points that deserve consideration by all those working in southern African archaeology. Others require clarification or correction, and I take these first.

1. Schoeman (2004/05:81) writes that the archaeology of indigenous farmers constitutes but "a small portion of the volume". In fact, Chapters 10, 11 and 12, which are presumably those to which reference is made, make up 131 (33.1%) of the 396 pages devoted to the region's substantive archaeological record. In a work that covers some three million years, this does not seem "small".

2. Calabrese's exciting work in the Shashe-Limpopo Confluence Area went unreferenced not for lack of interest, but because the manuscript of the book was submitted in November 2000, one month before the relevant papers were published. Publishing constraints then prevented their inclusion during copy-editing, though they receive what I hope is due recognition in a more recent synthesis (Mitchell & Whitelaw 2005).

3. The book is claimed to be "rather South Africa centric" (Schoeman 2004/05:81). As someone whose fieldwork experience has been entirely outside of South Africa, I find this observation interesting, but untrue. Every conceivable effort was made to provide detailed coverage of the archaeologies of Botswana, Lesotho, Mozambique, Namibia, Swaziland and Zimbabwe, not just in the text, but also in the illustrations. However, the plain fact is that with the partial exception of Zimbabwe (to which a large part of Chapter 11 is necessarily assigned) nowhere near as much work has been undertaken in any of these countries, as has been the case in South Africa. The extremely limited number of archaeologists currently operating in at least three of these states underlines the point.

4. The related comment about my "predisposition towards Anglophone publications" (Schoeman 2004/05:81) is equally odd. I am unaware of any significant publication that was omitted from the book's bibliography, which actually includes 22, not "less than ten" non-English language titles, ten in Afrikaans, six in French, five in German and one in Portuguese. That this total is so small reflects a combination of the linguistic affiliation of those working in the region and the choices they make when publishing their work. Both *Southern African Field Archaeology* and *Southern African Humanities*, for example, are monolingually English in content, while the *South African Archaeological Bulletin* last published something in Afrikaans over 40 years ago. Far from being a personal "predisposition" or a reflection of my own linguistic competence, this is a bias that reflects the reality of the discipline. For the record, my own efforts to transcend it include substantial overviews of southern African archaeology in French (Mitchell 2005a) and Italian (Mitchell 2005b), and a more recent paper that seeks to enhance the access of South African archaeologists to an important French language source on the Maloti-Drakensberg Bushmen (Mitchell 2006/07).

With these points clarified, we come to the more interesting challenge that Schoeman sets out, how best to write about the history of human beings in southern Africa from the standpoint of archaeological evidence. Three aspects of this question merit attention.

First, comes the way in which any chronological narrative is to be structured. Schoeman (2004/05:81) suggests that the divisions followed in *The Archaeology of Southern Africa* "perpetuate an illusion of isolated and bounded communities who lived in different 'Ages'," acknowledges nevertheless that hunter-gatherer and farmer interaction is addressed, but feels that the "current layout creates the impression that contact took place in the 'farmer' period". Attentive reading of the book would show that the "traditional divisions" are challenged as much perpetuated, for example by placing the MSA1 into Chapter 3 along with the Early Stone Age, and by grouping the post-Howieson's Poort MSA into the same chapter as most of the Pleistocene LSA (Chapter 5). Chapter 14, it might also be

noted, deals not with historical archaeology, but with the discipline's contemporary and future practice. Moreover, the placement of hunter-gatherers of the last 2000 years within chapters (9-13) emphasising pastoralist, farmer and colonial archaeologies was done precisely to stress the continuing presence of foragers *and* the mutuality of the interactions between people practising different patterns of subsistence. How contact with farmers could take place before 'the farmer period', I am at a loss to understand.

A second, and more substantive criticism, is that the volume is "theoretically uncritical and unrooted", something that supposedly reflects a non-engagement with the sociopolitical situation of southern Africa because of my location in Britain (Schoeman 2004/05:81-82). Obviously, I must plead guilty as far as current residency is concerned, but I would hope that living and working in South and southern Africa for much of the period 1985-1993 provided at least some understanding of their politics and of how these relate to the region's archaeology (Mitchell 2005c). I would thus agree wholeheartedly that there is much scope for developing a critical and contextual history of South (and southern) African archaeology, a topic broached by the papers in Robertshaw (1990), and more recently explored by Shepherd (2003) and others. However, the difficulty lies not just in striking a happy marriage between data synthesis and critical theory within a narrative framework. We have rather to ask what theoretical framework could be appropriate for the *whole* of southern African archaeology, from the australopithecines to apartheid (and, happily, now beyond). Crude geographical determinism aside, I cannot readily think of one.

This difficulty leads into my final point, which concerns what kind of publications we want or need, for what audiences they should (or could) be written, and what styles of writing they should employ. Data-synthesising textbooks for the use (I dare not write 'benefit') of students and colleagues are one kind of work. Publications addressing a more popular, but still informed, public and those that can take advantage of colour images are another (*e.g.* Blundell 2006). Outputs and outreach involving non-print media or written in indigenous (*i.e.* non-English) languages are also vital. Conveying the excitement, diversity and significance of southern Africa's past is a responsibility incumbent upon all archaeologists practising in, or concerned with, the region. How this can best be done probably deserves more explicit and open debate than it has often been afforded, but that it is necessary is something on which both Schoeman and I surely agree.

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e.mail addresses, *Southern African Field Archaeology*:
Johan Binneman: J.Binneman@ru.ac.za
Lita Webley: L.Webley@ru.ac.za